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VICKERS-ARMSTRONGS

LIMITED



HANDBOOK

OF THE

-303 Inch

VICKERS-BERTHIER
MACHINE GUN

Mark I





The accessories, spare parts and tools to be supplied are specified for each particular order or contract and do not necessarily include all those referred to in this handbook.

HANDBOOK

OF THE

·303 INCH
VICKERS-BERTHIER
MACHINE-GUN
MARK I

VICKERS-ARMSTRONGS LIMITED

HEAD OFFICE
VICKERS HOUSE, BROADWAY,
LONDON, S.W.1

Telegrams:
VICASTRONG, SOWEST
LONDON

Telephone: VICTORIA 6900 Cablegrams: VICASTRONG LONDON



View of right-hand side of Gun

O THE O 3 O 3 INCH VICKERS-BERTHIER MACHINE GUN

MARK 1

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·303 INCH VICKERS-BERTHIER MACHINE GUN

MARK 1

GENERAL DATA

Weight of Gun complete		. 22 lbs
Weight of Barrel with Carrying Han-	dle	. 6 lbs. 9 oz
Weight of Butt-Rest		. 1 lb. 4 oz
Length of Gun with Flash Eliminato	r	. 45.5 inches
Length of Barrel with Flash Elimina	tor	. 23.9 inches
Length of Barrel without Flash Elin	inator	. 22 inches
Weight of Magazine (Empty)		12 oz
Weight of Magazine (Full)		. 2 lbs. 7 oz
Length of Gun Chest		$47\frac{3}{8}$ inche
Width of Gun Chest		. 9 inche
Height of Gun Chest		. $10\frac{5}{8}$ inche
Weight of Gun Chest (Empty)		. 41 lbs
Weight of Gun Chest (Filled)		. 70 lbs

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19. Gun Chest (Item 245) ...

·303 INCH VICKERS-BERTHIER MACHINE GUN

SPECIAL FEATURES

The Vickers-Berthier Machine Gun is of the gas-operated type, in which a part of the highly compressed gases generated by the explosion of the charge is utilised to operate the Gun automatically.

The Gun is fed with ammunition from a Magazine having a capacity of 30 rounds, fitted into an opening

in the top of the Body or Breech Casing.

The action of the Gun may be summarised as follows:— When the Gun is cocked, ready for firing, the Breech Block is held at the rear of the Gun. On the Trigger being pressed the Breech Block is carried by the Piston, which is propelled forward by the Return Spring, and pushes a cartridge from the Magazine into the Barrel Chamber. The Breech Block is then positively locked by a tilting movement, and the Firing Pin in the Breech Block carried forward by the Piston to fire the cartridge. As the bullet is nearing the muzzle of the Gun a portion of the propelling gases escapes through a small hole in the Barrel wall, and is deflected to the head of the Piston. which is driven rearwards, compressing the Return Spring and unlocking and withdrawing the Breech Block from the Barrel. During the rearward movement of the Breech Block the empty case is extracted from the Barrel and ejected from the Gun. When the Gun is firing automatically, this cycle of operations is repeated until the Trigger is released, or the ammunition is exhausted.

The characteristic features of the Gun are its great simplicity and light recoil. The various parts are so constructed that incorrect assembly is impossible. Self-contained covers are provided to protect the working parts from dirt during transport. When the Gun is firing there are no moving external parts which might injure the firer.

The Barrel is easily detachable and, when overheated, may be changed for a cool one in six seconds, without handling the hot Barrel itself, and without dismantling any other parts of the Gun.

The Gun may be completely dismantled for cleaning in less than 35 seconds, and reassembled in less than

75 seconds.

By a simple movement of a Lever near the Trigger, the Gun may be set for either "Automatic" or "Repetition" fire, and may also be set to "Safe." Used automatically, 250 rounds may be fired in one minute, including the time taken in changing magazines. Used for repetition firing, 90 aimed rounds may be fired in one minute.

On cessation of fire the Breech Block is retained at the rear of the Gun. There is consequently no danger of accidental discharge, due to a cartridge being left in a

hot Barrel.

The Gun is usually fired in the prone position, in which case the Barrel is supported at a convenient height on two folding legs at the front of the Gun. This arrangement generally gives sufficient accuracy, but for shooting at long ranges an adjustable Butt-rest is supplied.

The Gun may be fired either from the shoulder or from the hip by the Gunner when in a standing position, and may be fired at any angle of Elevation or Depression without any adjustments being necessary.

·303 INCH VICKERS-BERTHIER MACHINE GUN

GENERAL DESCRIPTION

Note.—The reference numbers used in the text of this handbook correspond with those of the Nomenclature and Plates.

In describing in detail the various components and accessories of the Gun, these will be considered as being divided into six principal groups, viz.:—

- Group 1. Barrel, Carrying Handle, Gas Block, Gas Regulator, Foresight, Flash Eliminator, etc.
- Group 2. Body (or Breech Casing) with Ejector, Magazine Catch, Barrel Locking Pin, Backsight, etc.
- Group 3. Trigger, Butt, Pistol Grip, Return Spring, Buffer Spring, etc.
- Group 4. Cocking Handle, Gas Cylinder, Bipod, etc.
- Group 5. Breech Block, Firing Pin, Extractor, Piston, etc.
- Group 6. Magazine, Tools and Accessories.

1. BARREL GROUP.

(Items 0–28) (Plate 10)

Barrel.

The Barrel (0) is chambered, bored and rifled to suit service ammunition. The Breech Face is bevelled to clear the claw of the Extractor (194). The Breech end is

screwed externally with an interrupted "Acme" thread to engage with the Body (30). The interruptions are unequal so that it is impossible for the Barrel (0) to be incorrectly fitted to the Gun.

Before the Barrel (0) can be turned in the Body (30) to its locked position, the Breech-Thread Interrupter (59) in the Body (30) must engage with a cannelure in front of the "Acme" thread. This ensures that all the threads on the Barrel (0) are in engagement with those in the Body (30). A little in front of the "Acme" thread is a collar, which bears against the front of the Body (30) when the Barrel (0) is home.

The collar is cut away on the top to accommodate the tongue on the Barrel Stop Collar (1), and is also provided with a keyway on the underside for a corresponding key on the Gas Cylinder (170).

The ferrule of the Barrel Stop Collar (1) abuts against the front of the collar, and is permanently secured by the Barrel Stop Collar Pin (14) engaging with a groove on the Barrel. In front of the Barrel Stop Collar (1) a shallow groove is cut radially partly round the Barrel (0). This is to receive the end of the Carrying Handle Bracket Screw (21), which prevents longitudinal movement of the Carrying Handle Bracket (15) while allowing it to move radially. In front of the radial groove are two recesses, one on top and one on the underside of the Barrel (0), to engage with the projection on the Carrying Handle Catch (16), to hold the Carrying Handle in either of its two positions.

Towards the muzzle, a small gas hole is drilled through the wall of the Barrel (0). The Gas Block (2) is fitted round the Barrel (0) at this point, being secured thereto by the Gas Block Pin (7) engaging with a groove on the underside of the Barrel (0). It is further secured by the Sling Eye (9), which is screwed through the Gas Block (2) into the top of the Barrel (0). The gas hole in the Barrel (0) registers with a corresponding hole in the Gas Block (2). The muzzle end of the Barrel (0) is reduced in diameter and is screwed externally to accommodate the Flash Eliminator (10). The Foresight Bracket (11) is fitted round the Barrel (0) behind the Flash Eliminator (10). Two recesses are cut in the Barrel (0) to engage with corresponding projections on the Foresight Bracket (11) and prevent it from turning.

Barrel Stop Collar.

The Barrel Stop Collar (1) is a ferrule with a tongue piece, secured to the Barrel (0) by the Barrel Stop Collar Pin (14). Before the Barrel (0) can be locked to the Gun the tongue must be home in a corresponding recess at the end of the Body (30) to ensure that the Barrel (0) is in its correct radial position.

Gas Block, etc.

The Gas Block (2) contains the components required to regulate the supply of gas to the head of the Piston (200). It is secured to the Gun by a sleeve on its upper part, which embraces the Barrel (0) and is secured thereto by the Gas Block Pin (7) and the Sling Eye (9).

A small hole in the Gas Block (2) registers with the gas hole in the Barrel (0). Beneath the gas hole is a conical cavity screwed at the bottom to receive the Gas Plug (3). Behind the Gas Plug (3) is a chamber to allow the gases to expand, and at the rear of the chamber is a hollow spigot, the inside of which accommodates the head of the Piston (200), while the outside accommodates the front of the Gas Cylinder (170).

A port from the cavity for the Gas Plug (3) communicates with a transverse hole in front, screwed to receive the Gas Regulator (5) on the right, and the Gas Regulator Chamber Plug (6) on the left. At the front of the Gas Block (2) is a projection with a tapered hole, communicating with the Gas Regulator (5) to allow surplus gas to escape. The Gas Plug (3) is tapered, and is slotted on the top

to receive the Gas Plug Port (4). It is grooved externally to allow gas to have access to the port of the Gas Regulator (5). The Gas Plug Port (4) has a curved groove on one side, through which the gas passes from the gas hole to the gas chamber in front of the head of the Piston (200).

The Gas Regulator (5) is a hollow screwed plug, with a hexagonal head. Its object is to regulate the escape of gas from the gas chamber, and thus vary the pressure of gas on the head of the Piston (200). Three escape holes of varying size are drilled radially through the walls of the Gas Regulator (5), which may be adjusted so that either the communicating port to the gas chamber is sealed, in which case no gas can escape, or is opposite one of the three holes mentioned.

To locate the Gas Regulator (5) in its selected position, the snib on the Gas Regulator Detent (8) engages with a selected recess cut round the head of the Gas Regulator (5). The recesses are engraved 0, 1, 2 and 3 to indicate the following positions:—

- 0. Communicating port to the Gas Chamber is sealed.
- 1. Communicating port to the Gas Chamber is opposite the small hole in the Gas Regulator (5).
- 2. Communicating port to the Gas Chamber is opposite the medium hole in the Gas Regulator (5).
- 3. Communicating port to the Gas Chamber is opposite the large hole in the Gas Regulator (5).

The Gas Regulator Detent (8) is held in a transverse hole on the right of the Gas Block (2).

The Gas Regulator Chamber Plug (6) is a hollow cylindrical plug, screwed into the Gas Block (2) opposite the Gas Regulator (5). The escaping gas passes into a chamber between the Gas Regulator (5) and Gas Regulator Chamber Plug (6) before finally escaping through the orifice at the front of the Gas Block (2).

Flash Eliminator.

To diminish "Flash" from the Gun during firing the Flash Eliminator (10) is screwed to the end of the Barrel (0) against the Foresight Bracket (11). It is conical in shape, and is provided with flats on its exterior to enable it to be screwed home with the Combination Tool (204).

The Flash Eliminator Split Pin (13), which passes through a hole on a projecting lug at the rear of the Flash Eliminator (13) and through a corresponding hole in the Foresight Bracket (11), ensures against accidental unscrewing of the Flash Eliminator (10).

Foresight.

The Foresight Bracket (11) is fitted round the muzzle end of the Barrel (0) behind the Flash Eliminator (10). It is located radially by two projections, engaging with corresponding recesses in the Barrel (0). It is provided with a dovetailed platform to accommodate the Foresight Blade (12) surrounded by a protecting hood with windows on either side to allow the Foresight Blade (12) to be assembled and adjusted.

The Foresight Blade (12) is of conventional pattern, with a dovetail on its underside to fit in the Foresight Bracket (11).

Carrying Handle.

The Carrying Handle is used mainly for the purposes of:—

- (a) Removing and replacing the Barrel.
- (b) Carrying the Gun.

It can also be used as a grip for steadying the Gunduring A.A. Fire.

The Carrying Handle Bracket (15) is of channel section, with a cylinder at one end to fit round the Barrel (0) and a boss at the other, screwed to receive the Carrying Handle Grip Stem (19). The Carrying Handle Bracket Screw (21) is screwed through the wall of the cylindrical end to engage

with a slot round the Barrel (0) to prevent longitudinal movement.

The Carrying Handle Catch (16) is a lever pivoted in the centre to the Carrying Handle Bracket (15) around the Carrying Handle Catch Pin (24), which is held in position by the Carrying Handle Catch Pin Washer (25). One end of the Catch is formed with a projection, normally held in engagement with either of the two slots in the Barrel (0) by the force of the Carrying Handle Catch Spring (18) housed in recesses at the other end of the Catch and the Bracket. The Catch is released by pressing the Carrying Handle Catch Knob (22), which is of Vulcanized Fibre, secured to a boss on the Carrying Handle Catch (16) by the Carrying Handle Catch Knob Pin (23).

The Carrying Handle Grip (17) is of Vulcanized Fibre, shaped externally for convenient handling. It is fitted to the Carrying Handle Grip Stem (19), being held thereon by the Carrying Handle Stem Nut (20), and is prevented from rotating by the Carrying Handle Stem Pin (28) which is driven through the Stem, engaging with a slot at the end of the Grip.

Between the Grip and the Bracket, the Carrying Handle Grip Flange (26) is fitted on the Stem. The Flange has a projection to insulate the fingers from the Bracket, and is located on the Bracket by the Carrying Handle Grip Flange Stud (27) engaging with a recess in the Flange.

2. BODY GROUP.

(Items 30–97) (Plates 11 and 12)

Body.

The Body (30) forms a casing for the breech mechanism of the Gun. It is provided with orifices to receive the magazine and to allow empty cases to be ejected. The Barrel is attached to the front, and the Butt and Trigger Guard at the rear.

At the front is the barrel orifice, screwed internally with an "Acme" thread to receive the Barrel (0), the threads being interrupted to facilitate assembly. The interruptions are unequal, so that the Barrel (0) can only be inserted in the correct position. A recess is formed at the end of the barrel orifice to receive the tongue of the Barrel Stop Collar (1).

To accommodate the Breech Block (190) a square hole is formed behind the barrel orifice, extending to the rear of the Body. The right hand wall of the square hole is recessed to provide clearance for the Extractor (194), and is pierced with a rectangular slot to enable the empty cases to be ejected.

The rear end of the Gas Cylinder (170) is supported in a round hole below, and parallel with the barrel orifice. This hole extends to the rear of the Body, to form a guide for the rear of the Piston (200) and the Return Spring (146). Keyways are formed on both sides for the greater part of its length to engage with corresponding keys on the rear of the Piston (200). A slot is cut right through the right hand keyway, to enable the Cocking Handle Lug (166) to engage with the Piston (200). Keyways are also formed at the top and bottom at the front to engage with the Gas Cylinder (170). A slot is cut through the bottom extending to the rear. The front of the slot is grooved to accommodate the Body Bottom Plate (60), which is permanently secured to the Body (30) by the Body Bottom Plate Rivet (61). The rear of the slot accommodates the Trigger Guard (110), which is held in position on the Body (30) by the Trigger Guard Locking Pin (65) passing through a transverse hole formed in a projection on the bottom of the Body (30).

On the left of the Body (30) a slanting hole is drilled radially from the hole for the Trigger Guard Locking Pin (65) to accommodate the Trigger Guard Pin Plunger (52).

A slot is cut in the bottom of the square hole for the Breech Block (190) into the top of the round hole for the Piston (200). This enables the projection on the rear of the Piston (200) to engage with the Breech Block (190).

On the bottom of the Body (30) towards the front is a projection through which are drilled two transverse holes. The front one is of larger diameter on the left than the right, and accommodates the Barrel Locking Pin (70). A narrow cannelure is cut inside the larger diameter with a small keyway on the outside to enable the Barrel Locking Pin (70) to be assembled and retained in position.

The rear of the two holes enables the Gun to be attached to a Tripod or other mounting.

On the left of the Body (30) is a shallow projection radial with the hole for the Barrel Locking Pin (70) provided with two recesses to engage with the Barrel Locking Pin Catch (71). The lower recess holds the Barrel Locking Pin (70) in its normal position, and the upper recess holds it in the position necessary to assemble or dismantle the Gas Cylinder (170).

The Ejector (33) is fitted to the left of the Body (30), being held in a slotted rectangular box-shaped projection, provided with bayonet pattern slots to receive the trunnions of the Ejector (33). The slot for the Ejector (33) is dovetailed at the outside to hold the Ejector Cover (79) in position.

To enable a clinometer or optical sight to be fitted, a vertical dovetailed groove is formed on the left at the rear of the Body (30). On the right of the Body (30), in line with the ejection slot, a grooved strip is formed, on which slides the Ejection Opening Cover (82). A recess is formed at the rear of the strip to receive the Ejection Opening Cover Catch (83) to hold the Cover in its opened position.

Below the ejection slot, a long grooved recess [in which slides the Cocking Handle (160)] is formed on both sides of the slot for the Cocking Handle Lug (166).

The rear of the Body (30) is suitably shaped to receive the Trigger Guard (110), and is provided with a recess in the underside of the top, and on both sides at the bottom to accommodate corresponding projections on the Trigger Guard (110).

A rectangular box is formed on the top of the Body with an open top to receive the Magazine (210). At the front are two lugs, drilled to receive the Magazine Opening Cover Pin (57) on which the Magazine Opening Cover (54) is hinged. A recess is formed between the lugs to receive the Magazine Opening Cover Catch (55) and the Magazine Opening Cover Catch Spring (56).

The inside of the box is formed with a lip at the front, under which the Magazine (210) is hooked, and with recesses on both sides to accommodate the fork on the Breech Block Catch (34). Projections are formed inside, on which the Magazine rests when in position.

At the rear of the box are two lugs drilled and counterbored to receive the Magazine Catch Lever Pin (44) and the Magazine Catch Pawl Bush (46). On both sides of the lugs are horizontal grooves to accommodate the rear of the fork of the Breech Block Catch (34).

At the rear of the grooves are two elongated holes, communicating with the inside of the Body (30) to enable the Breech Block Catch (34) to have access to the Breech Block (190).

A round hole is drilled through the rear of the box to accommodate the Magazine Catch (38) and the Magazine Catch Spring (40). The rear of the hole is tapped to suit the Magazine Catch Spring Plug (39). Grooves are formed each side at the rear to engage corresponding projections on the inside of the Magazine Catch Slide (35).

Beneath the rear of the magazine orifice is a transverse square hole to accommodate the Locking Shoulder (48).

Behind the magazine orifice, on the top of the Body (30), is a grooved projection, to accommodate the tail of the

Breech Block Catch (34) which is held to the Body (30) by the Breech Block Catch Pin (36) passing through transverse holes at the rear of the projections.

A shallow recess is formed in the groove to locate the Breech Block Catch Spring (37).

At the rear of the top of the Body (30) is a projection bored transversely to accommodate the spindle of the Backsight Leaf (86) and the Backsight Stem Spring (97).

The left of the projection has a "V" groove to engage with a corresponding projection on the Backsight Leaf (86). For manufacturing purposes a hole is drilled and tapped from the rear through the bearing for the spindle. This is permanently plugged by the Backsight Bracket Plug (64).

The following components are permanently riveted to the Body (30):—

Breech Thread Interrupter (59).

This is fitted transversely through the Body (30) so that it projects just in front of the lower part of the screwed portion of the Barrel orifice. It has an elongated head to fit in a corresponding recess on the right of the Body (30). The other end is permanently riveted to the other side of the Body (30). The centre is shaped to resemble an interrupted thread in the Barrel orifice, but is slightly wider, so that while the Barrel (0) may be pushed in the Body (30) it cannot be turned to its locked position until the Breech Thread Interrupter (59) is in engagement with the cannelure at the front of the screwed portion of the Barrel (0). It is thus impossible for the Barrel to be turned to its locked position until it is properly home.

Piston Stop (58).

This is fitted transversely through the Body (30) so that it projects into the top of the round hole for the Piston (200) just below the end of the Barrel orifice. It is square in section, except in the centre, where it is

relieved on the underside to correspond with the Piston (200). It has a round head to fit in a corresponding recess on the left of the Body (30), and is riveted to the Body (30) on the right. Its object is to form a stop for the head of the Piston (200) on its forward movement.

Feed-Piece Guide (31).

This is fitted transversely through the Body (30) just behind the Barrel orifice. It is oval in section, with a snib at one end to engage with a corresponding recess on the right of the Body (30). It is riveted over on the other side of the Body. It is relieved in the centre on the underside to enable the Feed-Piece (191) on the Breech Block (190) to rise clear of the cartridge when it is in the Barrel (0).

Bullet Guide (50).

This is fitted through the Body (30) just below the front of the magazine orifice. It is oval in shape, and is riveted over to the right of the Body (30). It is chamfered on the underside in the centre, to form a guide for the bullet, as the cartridge is pushed from the Magazine into the chamber of the Barrel (0).

Breech Block Cam.

This is fitted transversely through the Body (30), a little behind the Barrel orifice, in such a position that the upper surface will engage with the bottom of the Breech Block (190) on its forward movement to effect its initial upward movement.

It is a round pin with an oval head, which fits into a corresponding recess on the right of the body (30). The other end is permanently riveted to the other side of the Body.

The centre of the pin is suitably shaped to engage with the bottom of the Breech Block (190).

Cocking Handle Stop Plate (62).

This is dovetailed on its edges, and is driven into a dovetailed recess in front of the slot for the Cocking Handle Lug (166). Its object is to form a stop for the Cocking Handle Catch (162) to retain the Cocking Handle in its forward position.

Ejector.

The Ejector (33) is a lever, provided with trunnions near one end, partly cut away, for assembly in the L.H. side of the Body (30). The shorter arm of the Ejector (33) engages in a grooved cam cut in the left side of the Breech Block (190). The longer arm of the Ejector (33) is the ejector proper, and forces the empty case from the face of the Breech Block (190) when the Block is driven backwards.

Ejector Cover.

The Ejector Cover (79) is a thin spring steel plate partly dovetailed on the edges to correspond with the dovetails in the projection carrying the Ejector (33) on the left of the Body (30). The Ejector Cover Thumb Piece (80) of channel section is riveted to the Ejector Cover (79) to enable it to be easily assembled.

Breech Block Catch.

The Breech Block Catch (34) is a forked lever, the tail of which is hinged in a groove on the top of the Body (30), behind the Magazine orifice, by the Breech Block Catch Pin (36). It has two catches on its underside which project into the Body (30) to retain the Breech Block (190) in its cocked position, when the last cartridge has left the magazine. It is normally held out of engagement by the Breech Block Catch Spring (37), which is held in recesses towards the front of the tail and the top of the Body (30).

The forked part projects inside the magazine orifice, where it may be depressed by the projections on the Magazine Platform (216) when the Magazine is empty.

Cams are formed on both sides, which engage with projections on the Magazine Catch Slide (35) to raise the catch out of engagement when an empty magazine is removed.

Magazine Catch.

The Magazine Catch (38) is of cylindrical section, with a gib at one end to engage with the lip on the rear of the Magazine and hold it in position on the gun. It has a slotted projection at the top to receive the Magazine Catch Pawl (43). The rear is hollow to accommodate the Magazine Catch Spring (40), which, bearing inside the Magazine Catch Spring Plug (39), holds the Magazine Catch (38) in its normal position. The Magazine Catch Spring Plug (39) is a hollow screwed plug, screwed into the rear of the Magazine orifice, and pinned thereto by the Magazine Catch Spring Plug Pin (66).

The Magazine Catch (38) is actuated by the Magazine Catch Lever (42) through the medium of the Magazine Catch Pawl (43). The Magazine Catch Lever (42) is a thin plate with two drilled lugs on one edge, by which it is hinged to the Body (30) by the Magazine Catch Lever Pin (44). The opposite edge is grooved to suit the Magazine Catch Slide (35). A small projection is formed between the lugs to abut against the Magazine Catch Lever Pawl (43). It is secured to the Magazine Catch Lever Pin (44) by the Magazine Catch Lever Pin Fixing Pin (45), which is driven through both items.

The Magazine Catch Lever (42) is held in its normal vertical position by the Magazine Catch Spring (40), which is held between the lugs of the lever around the Magazine Catch Lever Pin (44).

This is a torsion spring, one end of which is held in a hole in the head of the Magazine Catch Lever Pin (44) and the other in a hole in the left-hand lug on the Body (30). Tension is given to the spring by turning the head of the Magazine Catch Lever Pin (44) before it is finally pinned

in position. The head has a screwdriver slot for this purpose.

The Magazine Catch Pawl (43) is a hollow cylinder with a projection on the top to abut against the Magazine Catch Lever (42) and a projection on the bottom to engage with the Magazine Catch (38) and the Magazine Catch Slide (35). It is fitted on the Magazine Catch Pawl Bush (46), which is accommodated in the lugs on the Body (30) and held in position by the Magazine Catch Lever Pin (44).

Magazine Catch Slide.

The Magazine Catch Slide (35) is a three-sided box which fits over the rear end of the magazine box on the Body (30) and is able to slide thereon. It is provided with internal keys which slide in corresponding keyways on the Body (30). The front is slotted to clear the lugs for the Magazine Catch Lever Pin (44), and has a square hole to engage with the lower projection on the Magazine Catch Pawl (43). Serrations are cut on the sides to form finger grips. A groove is formed on the top rear end to accommodate the Magazine Catch Lever (42) in its travelling position. The front is undercut to retain the Magazine Opening Cover (54) in its closed position.

When the Magazine Catch (38) is operated, by the removal of a magazine from the gun, the projection on its lower part being in engagement with the Slide, forces it to the rear. During this operation internal projections in the Slide engage with cams at the rear of the fork of the Breech Block Catch (34) to raise it clear of the Breech Block (190).

Magazine Opening Cover.

The Magazine Opening Cover (54) is a rectangular cover with flanged sides, which covers the magazine orifice when the gun is not in use. It has three lugs at the front, by which it is hinged to the Body (30) by the Magazine Opening Cover Pin (57).

To prevent the Cover from rattling when it is in its opened position the centre lug is grooved, and when the cover is fully open engages with the Magazine Opening Cover Catch (55), which is housed between the lugs on the front of the rectangular box on the top of the Body (30). The underside of the Catch is formed with two holes to accommodate the Magazine Opening Cover Catch Spring (56) which holds the catch in position in the groove. The outside of the rear of the cover is serrated to form finger grips. A thin lip is formed at the rear to engage under the front of the Magazine Catch Slide (35) to retain the cover when in its closed position.

Locking Shoulder.

The Locking Shoulder (48) is located transversely in the Body (30) above the Ejector (33). It is of square section with an oval head, fitting in a corresponding recess on the left of the Body (30). It is held in position by the Locking Shoulder Pin (49) passing through a hole in the end, and fitting in a groove cut in the outside of the right of the Body (30). Its object is to support the Breech Block (190) when it is in its firing position. It is chamfered on its underside to give clearance to the Breech Block (190) as it disengages.

Trigger Guard Locking Pin.

The Trigger Guard Locking Pin (65) is held transversely in the bottom of the Body (30) and secures the Trigger Guard (110) in position. It is a round pin with a knurled head, and has a semi-circular groove cut for the greater part of its length to engage with the point of the Trigger Guard Pin Plunger (52), which, while allowing the pin to be withdrawn sufficiently to enable the Trigger Guard (110) to be removed, prevents the pin from being entirely removed from the Gun. The Trigger Guard Pin Plunger (52) is housed in the left-hand side of the Body (30). It is hollow to accommodate the Trigger Guard Pin Plunger Spring (53) which keeps it in engagement with the groove.

Barrel Locking Pin.

The object of the Barrel Locking Pin (70) is to enable the Gas Cylinder (170) to be withdrawn from the spigot at the rear of the Gas Block (2) and thus permit of the Barrel (0) being partly rotated for removal from the Body (30). It consists of a partly serrated spindle, which is housed transversely in the Body (30) below the Gas Cylinder (170). The serrations engage with a rack cut on the underside of the Gas Cylinder (170). The spindle has a shoulder at one end, on which is formed a lever. A Key is formed on the spindle, near the shoulder, which, when in engagement with a cannelure cut inside the bearing on the Body (30) retains the Pin in position. The end of the lever is rectangular in section, to receive the Barrel Locking Pin Catch (71). This is of hollow rectangular section, with a snib on one side, and a boss on the other, to which the Barrel Locking Pin Knob (72) is secured by the Barrel Locking Pin Catch Washer (78). One end of the catch is slotted to receive the Barrel Locking Pin Plunger Nut (74), which is riveted in position by the Barrel Locking Pin Nut Pin (76). The inside of the lever portion is hollow, and accommodates the Barrel Locking Pin Plunger (75), one end of which is housed in the Barrel Locking Pin Plunger Nut (74). The other end has a slotted head, through which passes the Barrel Locking Pin Plunger Pin (77), which is riveted through the lever, and limits the travel of the Plunger. The snib on the Catch may engage with either of the two recesses on the outside of the left of the Body (30), and is held in engagement by the force of the Barrel Locking Pin Plunger Spring (73), which bears against the head of the Plunger inside the Lever.

When the Catch is in engagement with the upper recess, the key is in the position required to enable the Gas Cylinder (170) to be dismantled, *i.e.*, the serrations on the key are not in engagement with the rack on the Gas Cylinder (170). When the catch is in engagement with

the lower recess, the Gas Cylinder (170) is home on the Gas Block (2). To enable the Barrel (0) to be removed, the catch is forced out of engagement with the recess and the knob pushed downwards as far as it will go. This action rotates the serrated spindle, which, being in engagement with the rack on the Gas Cylinder (170) forces it rearwards clear of the Gas Block (2).

Ejection Opening Cover.

The Ejection Opening Cover (82) is a rectangular plate of channel section grooved inside to slide on the projecting strip on the left of the Body (30) to cover the ejection orifice when the Gun is not in use. It has a thumbpiece at the front for ease of operation. The empty cases strike the thumbpiece as they are ejected from the gun. The rear is formed with a projection bored and counterbored to receive the Ejection Opening Cover Catch (83). This is a spindle screwed at the top and having a snib at the bottom to retain the cover in its opened position, by engaging with a recess cut on the underside of the rear of the projecting strip on the Body (30), being held therein by the Ejection Opening Cover Catch Spring (85), bearing against the Ejection Opening Cover Catch Nut (84). This is screwed on the top of the spindle and projects above the top of the cover, and on being pressed releases the catch from the Body (30) to enable the cover to be pushed forward to its closed position.

To ensure that the cover is opened when the gun is about to be fired, a projection is formed towards the rear which engages behind a corresponding projection on the Cocking Handle Body (160). Thus when the Cocking Handle is operated, the cover is automatically withdrawn to its opened position.

Backsight.

The Backsight Leaf (86) is graduated on both sides, the graduations corresponding to hundreds of yards. It is open in the centre to receive the Backsight Slide (87), and has a spigot at the base, which is fitted into a boss on the

rear of the Body (30). Two "V"-shaped projections are formed on the spigot, which on engaging in corresponding recesses on the end of the projection on the Body (30) ensure that the sight is held firmly in either its folded or firing position under the influence of the Backsight Stem Spring (97) housed in the Body (30) around the spigot, and bearing against the Backsight Stem Nut (91) screwed on the end of the spigot. The nut is pinned thereto by the Backsight Stem Nut Split Pin (92). The Backsight Slide (87) is a block grooved on both sides to slide in the leaf, and has a projection on one side with a concave recess with threads to engage with the Backsight Elevating Screw (93). A recess is cut in the top of the leaf to enable the slide to be assembled. The Backsight Aperture Plate (88) is held to the Slide by the Backsight Aperture Plate Screw (90) and the Backsight Aperture Plate Screw Nut (89). The sighting aperture is formed in the lower part of the plate. A line is engraved on the plate to enable it to be set against the desired range on the leaf. The Backsight Elevating Screw (93) is a long screw, housed in bearings, formed at the top and bottom of the leaf. The Backsight Screw Head (94) which is knurled to enable the screw to be turned, is pinned to the top by the Backsight Screw Head Pin (95). Beneath the head, the Backsight Screw Head Spring (96) is housed in a recess on the top of the leaf. This is a flat spring, with a snib which eng ges with radial notches on the underside of the head to retain it in any desired position.

The base of the leaf is provided with a foot, in which a sighting aperture is formed for use at short ranges when the sight is in its folded position.

3. TRIGGER AND BUTT GROUP.

(Items 110–153) (Plate 13)

Trigger Guard.

The Trigger Guard (110) fits into the rear of the Body (30) and contains the trigger mechanism and the buffer

details. The frame for the pistol-grip is formed at the bottom, and the Butt (136) and Return Spring Tube (124) are attached to its rear.

The left of the projecting front part is cut out to accommodate the trigger gear, and is provided with holes which form bearings for the Trigger (113), Sear Axis Bar (120) and the Change Lever (121). Three small holes are drilled radially with the hole for the Change Lever (121) to locate the Change Lever Plunger (122) in any of its three positions. The holes are marked "A," "R" and "S" respectively, from the top:—

"A" Automatic.

"R" Repetition.

"S" Safe.

A hole is bored through the front of the guard to engage with the Trigger Guard Locking Pin (65) to retain the guard on the Body (30). The recess for the trigger gear is undercut at the front to form a stop for the front of the Sear (116), and has a round recess on the underside of the top at the rear to hold the Trigger Spring (115) in position. The Trigger (113) projects through a slot in the bottom.

The top of the guard is bored and counterbored to receive the Buffer Spring (129) and Buffer (128), which is retained by the Buffer Pin (130) driven through transverse holes in the guard. Below the Buffer bearing is a screwed hole to receive the end of the Return Spring Tube (124). A small recess is cut in the bottom to enable the tube to be permanently locked in position. On the right of the upper part of the guard is a projection which acts as a stop for the Ejection Opening Cover (82) in its opened position. Below are two grooves to accommodate the end of the Cocking Handle Cover (147). Two holes are drilled on each side of the guard to enable the Butt to be secured by the Butt-Stock Pin (127). A lip is formed on the top of

the guard, and a projection is formed on each side to engage with corresponding recesses on the rear of the Body (30).

Trigger Mechanism.

The Trigger Mechanism is housed in the front part of the Trigger Guard (110), and is retained therein by the Trigger Guard Side Plate (111). This has three holes to form bearings for the Trigger (113), Sear Axis Bar (120) and the Change Lever (121). A projection is formed at the front to engage with a recess in the Trigger Guard (110) to hold the front of the plate in position. The bearing for the Change Lever (121) has a cannelure inside, and is provided with a keyway to enable a corresponding key on the Change Lever (121) to engage with the cannelure to retain the plate in position on the guard. The Sear Side Studs (112) are riveted on the inside of the front of the plate, and on the recess for the trigger mechanism in the guard, thus preventing lateral movement of the Sear (116).

The Trigger (113) is provided with trunnions above the finger piece to engage in the Trigger Guard (110) and the Trigger Guard Side Plate (111). The front has a projection to engage with the Change Lever (121), and behind the trunnions is a bent to engage with the Sear Trip (118). The Trigger Spring Stud (114) is riveted to the rear, to retain the Trigger Spring (115) in position.

The Sear (116) is a lever with a horizontal slot to fit on the Sear Axis Bar (120). A projection at the front forms a stop to engage with the Trigger Guard (110). Towards the front is a bent to engage with a corresponding bent on the underside of the Piston (200). A projection is formed on its underside with a recess to accommodate the Sear Spring (117). The rear of the projection engages with the Change Lever (121). The rear of the Sear (116) is slotted to receive the Sear Trip (118), and has transverse holes to form bearings for the Sear Trip Pin (119), which holds the Sear Trip (118) in position. A projection is formed on the

bottom at the rear with a recess to accommodate the Sear Trip Spring (142). The Sear Axis Bar (120) is a rectangular block with two trunnions, which are held in the Trigger Guard (110) and Trigger Guard Side Plate (111). The Sear (116) is fitted on to the bar and has a small horizontal movement thereon, to enable it to be set to its repetition or automatic fire positions, by movement of the Change Lever (121). The Sear Trip (118) is hinged to the rear of the Sear (116), and has a projection at the bottom with a recess to receive the Sear Trip Spring (142) and a projection at the top which abuts against the top of the Sear (116). Its object is to enable the sear to function for either repetition or automatic firing as desired.

The Trigger Spring (115), Sear Spring (117) and the Sear Trip Spring (142) are helical springs which retain the components in their normal position.

The Change Lever (121) has a spindle fitting in the bearing in the Trigger Guard (110). The end of the spindle is provided with a key, which is engaged in a cannelure in the bearing in the Trigger Guard Side Plate (111). Projections are formed on the spindle, which engage with the Sear (116) and the Trigger (113), to put them in such a position that they are either set for repetition or automatic fire, or are rendered inoperative.

A hollow boss is formed on the end of the lever to accommodate the Change Lever Plunger (122) and the Change Lever Plunger Spring (85). The Plunger is riveted to the Change Lever Knob (123), which is fitted on the outside of the boss. The end of the plunger is held by the spring in engagement with a selected hole in the Trigger Guard (110) to retain the Change Lever (121) in its desired position.

A stop is formed on the lever, to abut against the Body (30) on assembly to limit the movement of the lever.

Butt.

The Butt (136) is of conventional shape. The front is carved to fit in the rear of the Trigger Guard (110) to which it is held by the Stock Butt Pin (127).

A hole is bored its entire length to accommodate the Return Spring Tube (124), one end of which is screwed into the Trigger Guard (110) and locked thereto. The other end is screwed to receive the Upper Butt Plate Screw (148), and has a square hole to suit the Return Spring Adjusting Screw (150). A slot is cut on the side to receive the head of the Return Spring Guide Screw (149). The Butt Plate (137) is secured to the rear of the Butt (136) by the Upper Butt Plate Screw (148) and the Lower Butt Plate Screw (135). The upper end of the plate is formed with an eye to receive the hook on the sling.

To accommodate the Butt-rest a hole is bored from the underside of the Butt (136). The Butt Tube (145), which is a hollow screwed plug, is screwed into the underside of the hole, and forms a bearing for the Butt-rest Outer Elevating Screw (222). The Butt Catch (132) is a lever, one end of which forms a thumb piece and the other a catch, to engage with a hole in the Butt-rest Outer Elevating Screw (222) to retain it in position. It is pivoted to the Butt Catch Bracket (131) by the Butt Catch Pin (133). The Butt Catch Bracket (131) is made from plate, bent to form a "U" in the centre, where it is drilled to receive the Butt Catch Pin (133). It is secured to the Butt (136) by the Catch Butt Bracket Screws (135). The Butt (136) is carved out on the right to accommodate the catch and bracket.

The Cocking Handle Cover (147) is of channel section, with turned up edges to fit in grooves cut on the right of the Butt (136) at the front. Its object is to form a hand guard for the Cocking Handle Body (160) when it is withdrawn.

The Cocking Handle Cover Bracket (143) is of plate, bent to fit over the Cocking Handle Cover (147). It is secured at each end to a recess in the Butt (136) by the Cocking Handle Cover Bracket Screw (144). The object of the bracket is to give added strength to the Butt (136) and to secure the Cocking Handle Cover (147).

Pistol-Grip.

The right Pistol-Grip Side-Piece (138) and left (139) are shaped to form a comfortable grip for the hand, and are grooved to fit on both sides of the frame on the Trigger Guard (110) and are clamped together thereon by the Pistol-Grip Side-Pieces Screw (140) and the Pistol-Grip Side-Pieces Screw Nut (141). The side pieces are bored and counterbored to receive these components.

Return Spring.

The Return Spring (146) is a long helical spring, housed in the Return Spring Tube (124) in the Butt and in the Body (30). The initial tension of the spring may be varied by turning the Return Spring Adjusting Screw (150), which is fitted into the rear of the Return Spring Tube (124). It is a screw with a collar at one end to abut against the inside of the rear of the Tube. The other end is cylindrical, with a screwdriver slot at the end, and normally fits in the Upper Butt-Plate Screw (148). A square is formed against the collar to fit in the corresponding square hole in the end of the tube. The screw engages with the Return Spring Adjusting Nut (151), which slides inside the tube. The nut is round in section, with a cylindrical projection to form a support for the end of the Return Spring (146). The head of the Return Spring Guide Screw (149), which is screwed into the side of the nut, engages with a slot cut in the tube, and prevents the nut from turning, while allowing it lateral movement within the limits of the slot. The Return Spring Adjusting Nut Guide (152) is a plug fitted into the end of the cylindrical projection on the nut, and is pinned thereto by the Return Spring Adjusting Nut Guide Pin (153). Its object is to give a lead to the end of the spring when it is inserted in the tube.

Buffer.

The Buffer (128) is of mushroom shape, the head being recessed at the back to receive the end of the Buffer Spring (129). The stem, which fits into a hole in the upper part of the Trigger Guard (110), has an elongated hole, through which passes the Buffer Pin (130) to retain the Buffer (128) in position in the recess in the guard. The Buffer Spring (129) is a helical spring housed between the underside of the Buffer (128) and the guard. The object of the Buffer (128) and Spring Buffer (129) is to form a cushion for the Breech Block (190) at the end of its return movement.

4. GAS CYLINDER, COCKING HANDLE AND BIPOD GROUP.

(Items 160–187) (Plate 14)

Cocking Handle.

The object of the Cocking Handle is to enable the Piston (200) and Breech Block (190), etc., to be withdrawn by hand to the cocked position ready for firing. The Cocking Handle Body (160) is a flat rod, with a key on both sides to slide in the grooved recess in the Body (30). Two slots are formed towards the end, the one nearest the end to accommodate the Cocking Handle Catch (162) and the one behind to receive the Cocking Handle Lug (166). The Cocking Handle Catch (162) retains the handle in its normal position by engaging with the end of the Cocking Handle Stop Plate (62) in the Body (30). It consists of a right-angled lever, on one arm of which is formed a hookshaped catch. The other arm has a recess to receive the

Cocking Handle Catch Spring (165). The catch is pivoted in the centre, to the handle, by the Cocking Handle Catch Pin (163), and is held in engagement with the Cocking Handle Stop Plate (62) by the Cocking Handle Catch Spring (165) fitting between the catch and a recess in a projection on the handle. The catch is operated by the Cocking Handle Knob (161). This is a knob with a cylindrical projection, the end of which is pivoted to the handle by the Cocking Handle Catch Pin (163). The inside is shaped to accommodate the catch, and one side is slotted to fit over the projection on the handle. In addition to the force of the Cocking Handle Catch Spring (165) the knob is also held in its normal position by the Cocking Handle Knob Spring (164). This is a torsion spring, one end of which is held in a small hole inside the knob, the other bears against the projection on the handle.

The Cocking Handle Lug (166) is rectangular in shape, to fit in the slot on the handle. One side is formed with a catch to project into the Body (30) and engage with the right-hand side of the Piston (200). The other side has a rectangular head to locate in a recess on the top of the slot in the handle.

The lug has a hole in the middle by which it is secured to the handle by the Cocking Handle Lug Pin (167), one end of which is drilled to receive the Cocking Handle Lug Pin Split Pin (168) to retain it in position.

A projection is formed on the handle, to engage with a projection on the Ejection Opening Cover (82) to ensure that this is opened when the handle is operated.

Gas Cylinder.

The Gas Cylinder (170) is a guide for the Piston on its rearward movement. It is a tube, the front of which normally fits over the spigot at the rear of the Gas Block (2), and the rear is held in the Body (30).

The Bipod Bracket (177) is assembled around the front, being held thereto by the Bipod Bracket Pin (185) engaging with a groove cut round the cylinder.

A little behind the front a V-shaped projection is formed on the top. This forms a rest for the Barrel (0) when it is being assembled to the Body (30).

Keys are formed on the top and bottom at the rear to correspond with keyways in the Body (30). The upper key also engages with the Barrel (0).

The lower key is formed with a rack for part of its length to engage with the serrations on the Barrel Locking Pin (70) to enable the cylinder to be withdrawn from the Gas Block (2) when it is desired to remove the Barrel (0). Small holes are drilled through the walls of the cylinder towards the front, to enable the gases to escape after forcing the piston to the rear.

Bipod.

The Bipod is used to support the front of the Gun when the gunner is firing in the prone position. The legs are folded against the Barrel (0) when not in use. The legs are telescopic, enabling them to be adjusted independently for uneven ground.

The Bipod Leg Joints (179) are pinned to the tops of the Bipod Upper Leg Tubes (171) by the Upper Leg Joint Pins (186). The Joints have square heads through the top of which holes are drilled to enable them to be hinged to the Bipod Legs Hinge (178) by the Bipod Leg Hinge Screws (183). One side of each of the joints is recessed to receive the ends of the Bipod Legs Spring (184) which keeps them apart. The tops of the joints are formed with claws to engage with grooves inside the Bracket.

The Bipod Bracket (177) is formed with a bearing at the top to fit round the end of the Gas Cylinder (170). It can rotate round the cylinder, but is prevented from lateral movement by the Bipod Bracket Pin (185), which is riveted through the bracket engaging with a groove round the cylinder. The lower part of the bracket is formed into a "V" shaped lug, through which holes are drilled for the Bipod Bracket Screw (180) which forms an axis for the Bipod Legs Hinge (178), and is secured by the Bipod Bracket Screw Nut (181) which is pinned thereto by the Bipod Bracket Screw Nut Pin (182). On each side, about the axis, two grooves are formed at right angles. When the bipod is in use the claws at the top of the joints engage with the vertical grooves under the action of the spring. The vertical grooves are of such a depth that they permit the legs to be opened to their fullest extent. The horizontal grooves engage with the claws when the bipod is in its folded position. They are not so deep as the vertical grooves, and thus retain the legs of the bipod closer together.

The Bipod Legs Hinge (178) is pivoted at the top to the bracket. The lower part is formed with "V" section projections on both sides, drilled and tapped to receive the Bipod Bracket Screw (180), which form axis pins for the joints. The screws have a recess in the ends, which are opened out on assembly to retain them in position. A hole is formed in the lower part of the hinge to retain the Bipod Legs Spring (184) in position. The hinge is formed with a square corner at the top, which abutting against the underside of the bracket limits the forward movement of the legs.

Slots are formed in the lower part of the Bipod Upper Leg Tubes (171), and the Bipod Leg Clamp Collars (174) are brazed around the tube at this point. The collars are split and are formed with lugs drilled and screwed to receive the Bipod Leg Clamp Screws (175). These are thumbscrews, which on being tightened clamp the Bipod Upper Leg Tubes (171) to the Bipod Lower Leg Tubes (172) to retain them in the desired position. The Bipod Shoes

(173) are pinned to the lower ends of the Bipod Lower Leg Tubes (172) by the Lower Shoe Fixing Pins (187). The shoes are formed with spades to grip soft ground.

Grooves are formed along the Bipod Lower Leg Tubes (172), which engage with the Bipod Legs Keys (176) to limit the movement of the Tubes. The Keys are of flat plate, circular in shape, with a hole in the centre and are held between the lugs on the collar by the Bipod Leg Clamp Screw (175). They project inside the Bipod Upper Leg Tubes (171) to engage with the groove.

5. BREECH BLOCK GROUP.

(Items 190–200) (Plate 15)

Breech Block.

The Breech Block (190) holds the cartridge in the Barrel when it is fired. It has a reciprocating movement in the Body (30), and contains the Firing Pin (197) and Extractor (194). It is a rectangular block, hollowed out on the underside to accommodate the head of the Piston (200). Inclined grooves are formed in the sides of the hollow to engage with cams on the rear of the Piston (200) to give a tilting movement to the block to raise its rear to its locked position against the Locking Shoulder (48). The rear of the grooves are relieved on the top to receive the cams before they are brought into engagement. The upper surface of the grooves are continued towards the front, at a different angle, parallel with the centre line of the block when it is in its locked position, to engage with the top of the cams to ensure that the block is positively locked against the Locking Shoulder (48) when the cartridge is fired. The front of the underside is formed with grooves to engage with the Breech Block Cam (32) in the Body (30) to effect the initial upward movement of the block. A recess is formed in the right, towards the front, to accommodate the Extractor (194), Extractor Spring (196) and Extractor Spring Guide (195). The recess is continued forward in the form of a slot under a projection at the end of the block. The inside of the projection is formed with an angle, to form a bearing face for a corresponding angle on the head of the Extractor (194). A projection is formed around the rear of the recess to support the end of the Extractor Spring Guide (195).

The front of the block is shaped to receive the base of the cartridge, and is recessed on the right to enable the Extractor (194) to be assembled.

On the left, towards the rear, is a groove which acts as a cam to control the Ejector (33). A recess is formed towards the rear of the groove to give clearance for the tail of the Ejector when the block is in its raised position.

On the same side, at the front, a slot is formed to enable the front of the Ejector (33) to operate to eject the empty cartridge case.

The rear of the block is slightly curved, and is formed with a projection at the top to engage with the Locking Shoulder (48). The front of the projection is relieved on both sides to clear the Breech Block Catch (34).

The block is formed with two shallow grooves on the top to give clearance for the lips on the magazine. Towards the front on the top a cruciform recess is formed to receive the Feed Piece (191), which is hinged on the Feed Piece Pin (193) driven through a transverse hole in the block. A shallow round depression is formed in the bottom of the recess to locate the end of the Feed Piece Spring (192). Recesses are cut in the top, towards the front, to engage with the catches on the Breech Block Catch (34). Two "V"-shaped grooves are formed on both sides of the recess for the Feed Piece (191) to clear the bottom of the magazine.

A small hole is drilled at an angle from the underside of the block to the underside of the hole for the Firing Pin (197). This acts as a vent for the escape of any gases from the rear of the cartridge.

Feed Piece.

The object of the Feed Piece (191) is to push a cartridge from the magazine during the forward movement of the Breech Block (190). It is a lever with projections on both sides to bear against the block, pivoted in the recess on the top of the block, on the Feed Piece Pin (193). The underside of the front arm is recessed to receive the end of the Feed Piece Spring (192), which holds the Feed Piece (191) in its uppermost position. The rear of the Feed Piece (191) acts as a stop on the block to limit the upward movement of the front part.

On the rearward movement of the Breech Block (190) the Feed Piece (191) is deflected downwards when passing under the cartridges in the magazine.

Extractor.

The Extractor (194) is round in section, with a claw at the end to engage behind the rim of a cartridge. It is housed in a recess on the right of the Breech Block (190), and has a chamfer behind the claw to bear against a corresponding face in the Block.

The rear of the Extractor (194) is bored to receive the end of the Extractor Spring Guide (195). This is a pin, the head of which is held behind the projection at the rear of the recess in the Block.

The Extractor Spring (196) is assembled on the guide. It is of helical pattern and bears against the head of the guide and the rear of the Extractor (194) to keep it forward.

The force of the spring tends to force the chamfered surface behind the head of the Extractor (194) against the inclined surface inside the Breech Block (190), and thus holds the claw of the Extractor (194) in engagement with the rim of the cartridge.

Firing Pin.

The Firing Pin (197) is accommodated centrally in the inside of the front of the Breech Block (190). It is a round pin, tapered at the front to form the striking point. The rear is formed with a head, which abuts against a shoulder in the Breech Block (190) to limit the forward movement of the pin.

A shoulder is formed towards the rear, against which abuts the end of the Firing Pin Spring (199) to retain the pin inside the block until it is struck by the projection on the Piston (200) to fire the cartridge. The other end of the Firing Pin Spring (199), which is of helical pattern, abuts against a shoulder, formed in the hole for the firing pin in the Breech Block (190).

The Firing Pin (197) is retained in the Breech Block (190) by the Firing Pin Screw (198), which is screwed transversely through the Block to engage with the rear of the pin.

Piston.

The Piston (200) is a rod, on one end of which is formed the piston head, normally held inside the spigot at the rear of the Gas Block (2). The other end has a projection on the top, which is accommodated inside the Breech Block (190). Cams are formed on both sides of the projection, which engage in the inclined grooves in the block to raise it to its locked position. The front is cut away on the top to engage with the rear of the Firing Pin (197). The rear of the Piston (200) is formed with a spigot to engage inside the end of the Return Spring (146). Above the spigot, the Piston (200) is shaped to engage with the rear of the Breech Block (190) in its rearward position.

Keys are formed on each side at the rear to engage with keyways in the Body (30). The right-hand key is formed with a catch at the front to engage with the Cocking Handle Lug (166) to enable the Piston (200) to be withdrawn by hand. On the underside towards the rear, a bent is formed to engage with the Sear (116), to retain the Piston (200) in its cocked position.

A shoulder is formed, a little in front of the projection to act as a stop against the Piston Stop (58) in the Body (30) to limit the forward movement of the Piston (200).

The head of the Piston (200) is cup-shaped, to retain any fouling that may occur. Three annular grooves are formed round the head, the edges of which help to keep the Gas Cylinder (170) free from fouling.

Towards the front of the Piston (200) the rod is slightly enlarged in diameter to form two bearings against the inside of the Gas Cylinder (170).

6. MAGAZINE, TOOLS AND ACCESSORIES GROUP.

(Items 203-245)

(Plates 16, 17 & 18)

Magazine.

The Magazine (210) is a spring-loaded container of segmental shape of rectangular section to hold a maximum of 30 rounds. The Magazine Side Plate, right (213) and

left (214) form the sides. These are of segmental shape, grooved to receive the projections on the Magazine Platform (216). Holes are formed at the bottom of the grooves to allow the projections to engage with the Breech Block Catch (34) when the last cartridge has left the magazine. The tops are formed with interrupted projections to retain the Magazine Bottom Plate (215). The lower ends of the plates are curved inwards to support the cartridges. The plates are connected together at the front and rear, by the Magazine Front Plate (211) and the Magazine Rear Plate (212) respectively. These are strips bent to correspond with the Side Plates to which they are riveted. Lips are formed at the rear of the plates to engage with the magazine orifice in the Body (30).

The Magazine Bottom Plate (215) is a rectangular plate fitting under the projections on the top of the Side Plates. One end is turned over to enable the plate to be levered off the Magazine, with a cartridge.

The Magazine Platform is of sheet steel, with a projection on the underside to hold the cartridges in a staggered position in the magazine. The front and rear are turned upwards to form a guide against the inside of the magazine.

A projection is formed on the right which, when the magazine contains 30 rounds, abuts against the Magazine Bottom Plate (215) preventing the insertion of further cartridges to protect the Magazine Platform Spring (217) from undue stress. Projections are formed on both sides to engage with the grooves in the Side Plates and to actuate the Breech Block Catch (34) when the magazine is empty.

A clip is formed on the top to retain the Magazine Platform Spring (217) in position.

The Magazine Platform Spring (217) is a spiral spring of round wire shaped to fit in the magazine. The top

Gas Regulator Key (203).

This is a spanner, in the head of which is a hexagonal hole to fit over the heads of the Gas Plug (3), Gas Regulator (5) and Gas Regulator Chamber Plug (6). The handle is cranked to facilitate use.

Combination Tool (204).

This is a tool, one end of which has an open end to fit on the flats of the Flash Eliminator (10). The other end is formed into a screwdriver blade, and is used also for dismantling the Extractor (194).

Magazine Charger Guide.

The Magazine Charger Guide Body (205) is of rectangular section, with a slotted projection on the top towards one end. The Magazine Charger Guide Bracket (206) is riveted to the inside of the other end by the Magazine Charger Guide Bracket Rivets (207). The bracket is provided with a vertical projection of channel section. The object of the Magazine Charger Guide is to enable magazines to be filled directly from standard rifle chargers. To fill a magazine the Magazine Charger Guide is placed on the open end of the magazine. The rifle chargers are put into the Bracket, the bullets of the cartridges being located in the slotted projection at the other end of the Magazine Charger Guide.

The cartridges are then pressed by the thumb out of the rifle charger into the Magazine.

Chamber Brush.

This is a small brush on a wire handle, and is used to clean the chamber of the Barrel after firing.

Butt-Rest.

The Butt-Rest is generally used to support the rear of gun to give greater control when firing at long range targets.

It is adjustable for height and fits into the underside of the Butt (136).

The Butt-Rest Outer Elevating Screw (222) is a left-handed "Acme" screw with a spigot at the top to fit in the Butt (136). Three holes are drilled in the spigot, one of which engages with the Butt Catch (132) which retains the Butt-Rest in position.

The lower part of the spigot is formed with a shoulder, to abut against the Butt Tube (145). The screw is bored to receive the Butt-Rest Stem (224), which is riveted in the screw by the Butt-Rest Stem Pin (226). It is counterbored from the underside to form clearance for the Butt-Rest Inner Elevating Screw (221). This is screwed for the whole of its length with an "Acme" right-handed thread. It is bored to slide on the Butt-Rest Stem. The Butt-Rest Inner Elevating Screw Stop Pin (227) is screwed into the side at the top, and forms a projection, which engages with a groove in the stem. This prevents the Butt-Rest Inner Elevating Screw (221) from rotating. The Butt-Rest Base (220) is a round concave plate, with a spigot in the centre which is pinned to the inside of the Butt-Rest Inner Elevating Screw (221) by the Butt-Rest Base Pin (225).

The Butt-Rest Elevating Nut (223) is a hollow cylinder screwed at the top to receive the left-hand "Acme" thread of the Butt-Rest Outer Elevating Screw (222) and screwed at the bottom to receive the right-hand "Acme" thread of the Butt-Rest Inner Elevating Screw (221). The outside is knurled to facilitate turning. A narrow vertical slot is cut in the lower part, which enables the nut to be adjusted to the required degree of friction on the screw.

Gas Cylinder and Gas Block Cleaner.

This tool is to enable the Gas Block (2) and Gas Cylinder (170) to be scraped clean after firing. It consists of a handle portion and two separate tools, either of which may be screwed on the handle.

The Cutter Handle Stem (234) is a tube to one end of which is pinned the Cutter Handle Stem Adaptor (236). This has a screwed spigot on which may be screwed either of the two separate tools.

The Handle Lug (239) is pinned to the other end. This has a lug, drilled to receive the Handle Axis Pin (238) which forms an axis for the Handle (237). The handle is a tube, hinged in the centre to the lug, and having one arm cut away to enable it to be folded against the stem.

The two tools are the Gas Block Cleaner Cutter (231) and the Gas Cylinder Cleaner Cutter (232). They are of reamer pattern of diameters to suit the Gas Block (2) and the Gas Cylinder (170) respectively. They are provided with spigots by which they are each pinned to one end of a Cutter Stem (233). A Cutter Adaptor (235) is pinned to the other end of each of the stems, which are tubular in shape. The adaptors are provided with a cylindrical head screwed inside for assembly on the handle portion.

Clearing Plug.

The Clearing Plug is to enable a fractured cartridge case to be removed from the chamber of the barrel. It consists of a Clearing Plug Plunger (242), around which is fitted the Clearing Plug Stem (243), which is retained thereon by the Clearing Plug Head (241) screwed on the end of the plunger, the other end of which is of conical shape. The stem is a hollow cylinder, on the end of which are a number of fine annular grooves. Three slots are cut in the stem, from the grooved end which thus enables it to expand when the end of the stem is pushed against the conical end of the plunger. The Clearing Plug Head (241) is shaped to resemble the base of the cartridge case.

To use the Clearing Plug, the gun should be cocked, and the plug placed in the chamber of the barrel. The grooves on the end of the stem are thus in frictional contact with the inside of the neck of the fractured case. On the trigger being released the Breech Block (190) bears against the Clearing Plug Head (241), which is also gripped by the Extractor (194).

On recocking the gun the Clearing Plug is thus withdrawn from the chamber. During its initial rearward movement the conical end of the plunger is drawn inside the end of the stem, forcing it to expand and tightly grip the fractured case, which is thus withdrawn with the plug from the Barrel (0).

Gun Sling.

The Sling (244) is of conventional rifle pattern with quick releasing hooks at each end.

Gun Chest.

The Gun Chest (245) is a wooden chest with interior fittings to accommodate one gun and one spare barrel. The component barrel must be removed from the gun

ACTION OF THE MECHANISM.

(Plate 7)

To Prepare for Firing.

- (1) The Change Lever (121) should be in the safe position.
- (2) If the firing is to be in the prone position, release the Bipod by squeezing the legs together and push the legs downwards.
- (3) Pull the Magazine Catch Slide (35) to the rear. The Magazine Catch Lever (42) will spring to a vertical position under the influence of the Magazine Catch Lever Spring (47). While the Slide is withdrawn open the Magazine Opening Cover (54).
- (4) Cock the gun by drawing back the Cocking Handle as far as it will go. During this action the Ejection Opening Cover (82) is withdrawn.
- (5) Return the Cocking Handle to its normal position.

 Note.—A misfire is liable to occur if the Handle is left in its rear position.
- (6) Place a full magazine in the magazine orifice on the Body (30). The front of the magazine should be hooked under the front of the magazine orifice, and the rear snapped down, to engage with the Magazine Catch (38).
- (7) Set the Change Lever (121) to "repetition" or "automatic" as desired.

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The gun is now ready to fire.

Cocking by Hand.

The normal position of the Gun at rest is as shown on Fig. 1, Plate 7.

On the Cocking Handle Knob (161) being pulled backwards the Cocking Handle Catch (162) is released from engagement with the Cocking Handle Stop Plate (62) and allows the Cocking Handle to be drawn to the rear. During this operation the Cocking Handle Lug (166) engages with the projection on the right of the Piston (200) which is thus drawn to the rear with the Breech Block (190) until the Bent on the underside of the Piston (200) engages with the Bent of the Sear (116). At the same time the Return Spring (146) is compressed. The Gun is now ready to fire on the trigger being pressed.

Forward Movement.

When the Trigger (113) is pressed it engages with the Sear Trip (118) to raise the rear of the Sear (116) about the Sear Axis Bar (120), thus depressing the front of the Sear (116) to disengage the bent thereon, from the bent on the underside of the Piston (200), which is propelled forward under the action of the Return Spring (146) carrying with it the Breech Block (190).

As the Breech Block (190) moves forward the Feed-Piece (191) engages with the head of a cartridge in the magazine and pushes the bullet of the cartridge under the Bullet Guide (50). As the cartridge passes under the guide the base is deflected downwards on to the face of the Breech Block (190), where the rim is engaged by the Extractor (194). The final forward movement of the Breech Block (190) rams the cartridge into the chamber of the Barrel (0).

As the Breech Block (190) approaches the end of its travel the cam on the front of its underside engages with the Breech Block Cam (32) to raise the rear of the

block, the front of the block being held under the Body (30). This action brings the cams on each side of the projection at the rear of the Piston (200) into engagement with the inclined grooves inside the Breech Block (190), which has now reached the end of its travel.

On the further forward movement of the Piston (200) the cams, on the projection at the rear being in engagement with the inclined grooves inside the Breech Block (190), tilt the rear of the block until it is abutting against the Locking Shoulder (48). The tops of the cams now ride against the parallel upper surface at the rear of the groove to ensure that the Breech Block (190) is positively locked in its tilted position.

During its final forward movement the front of the projection on the piston strikes the Firing Pin (197) to fire the cartridge. The Piston (200) finally comes to rest against the Piston Stop (58) in the Body (30).

Return Movement.

On the cartridge being fired, and after the bullet has passed the gas hole in the Barrel (0), a portion of the propelling gas escapes through the gas hole into the Gas Block (2), where it is deflected by the Gas Plug Port (4) to impinge on the head of the Piston (200), driving this to the rear to compress the Return Spring (146). The gas pressure on the piston is regulated by the Gas Regulator (5), which may be set to allow a portion of the gas to escape from the Gas Block (2) if the return movement of the Piston (200) is found to be too violent.

As the Piston (200) is driven rearwards the projection at the rear is disengaged from the Firing Pin (197), which is returned to its normal position under the action of the Firing Pin Spring (199). At the same time the cams at the rear of the piston are still in contact with the parallel faces in the Breech Block (190), to ensure that the block

is still in its locked position, until the gases have acted on the Piston (200).

As the Piston (200) returns further to the rear, the cams engage with the inclined grooves inside the Breech Block (190) to bring down the rear clear of the Locking Shoulder (48) on to the rear of the Piston (200), where it is held for the remainder of its return movement.

The Piston (200) on its final rearward movement carries the Breech Block (190) to the rear of the Body (30), where it is brought to rest against the Buffer (128).

As the Breech Block (190) is on its rearward movement the cam groove on its left engages with the tail of the Ejector (33) to force the front of the Ejector (33) inwards, into the slot at the front of the block where it engages with the base of the empty cartridge which has been withdrawn from the Barrel (0) by the Extractor (194).

The empty case being suddenly arrested by the Ejector (33) is jerked out of engagement with the Extractor (194) and through the Ejection orifice in the right of the Body (30).

The front of the Feed-Piece (191) is deflected downwards while passing under the next cartridge in the magazine, after which it rises to its normal position under the influence of the Feed-Piece Spring (192).

If the Change Lever (121) is set to "Automatic" the cycle of operations is continued until the last cartridge has been pushed from the magazine when the fork of the Breech Block Catch (34) is depressed by the projections on the Magazine Platform (216) under the influence of the Spring Magazine Platform (217) to bring the Catch into engagement with the end of the top of the Breech Block (190) as it is about to commence its forward movement. The Breech Block (190) is thus retained in its rearmost position. On the empty magazine being removed,

by pushing forward the Magazine Catch Lever (42) to disengage the Magazine Catch (38) from the rear lip of the Magazine, the Magazine Catch Slide (35) is also automatically withdrawn, and being in engagement with the Breech Block Catch (34) forces it upwards out of engagement with the Breech Block (190). The mechanism then moves forward slightly, until the Bent on the underside of the Piston (200) engages with the Sear (116). The gun is then ready for further firing without recocking on the insertion of a charged magazine.

If the Change Lever (121) is set to "Repetition" and the gun is fired, the Bent on the Sear (116) engages with the Bent on the underside of the Piston (200) as it commences to go forward after being driven rearwards. The Piston (200) and the Breech Block (190) are thus retained in the cocked position at the rear of the Body (30) until the Trigger (113) is again released.

For description of the Action of the Change Lever (121) and Trigger Mechanism see below.

ACTION OF THE CHANGE LEVER AND TRIGGER MECHANISM.

(Plate 8)

The Change Lever (121) engages with the Trigger Gear to set it to one of three positions, namely:—

1. For "Repetition" Fire

Each time the trigger is pressed one shot only is fired. The trigger having to be released and pressed again to fire a subsequent shot.

2. For "Automatic" Fire

On the trigger being pressed the gun fires automatically until the ammunition is exhausted or the trigger released.

3. For "Safe"

The trigger cannot be pressed.

The Change Lever (121) is located in the required position by the Change Lever Plunger (122) in the Change Lever Knob (123) being in engagement with a selected location hole on the right of the Trigger Guard (110).

"Repetition" Action.

The Sear (116) has a small horizontal movement on the Sear Axis Bar (120), and when the gun is cocked the bent on the underside of the Piston (200) being in engagement with the bent on the top of the Sear (116) retains the Sear (116) in its foremost position under the influence of the Return Spring (146).

For "Repetition" Shots the Change Lever Plunger (122) is in engagement with the middle location hole (marked R) in the Trigger Guard (110). This brings the cam-shaped projection on the stem of the Change Lever (121) out of engagement with the projection on the underside of the Sear (116).

On the Trigger (113) being pressed, the rear portion engages with the Sear Trip (118) on the rear of the Sear (116) thus moving the Sear (116) about its axis so that the bent on the front is brought downwards out of engagement with the bent on the underside of the Piston (200), which is free to be propelled forward by the Return Spring (146).

Immediately the Piston (200) is released the Sear (116) is forced to its rearmost position, under the influence of the Sear Spring (117). At the end of this movement the Sear Trip (118) slips over the bent on the top of the Trigger (113), thus enabling the front of the Sear (116) to rise to engage with the bent on the Piston (200) on its rearward movement. The Piston (200) is retained until the Trigger (113) is again pressed.

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"Automatic" Action.

For "Automatic" fire the Change Lever Plunger (122) should be in engagement with the upper location hole (marked A) in the guard. This brings the cam-shaped projection on the stem of the Change Lever (121) in engagement with the projection on the underside of the Sear (116) to hold the Sear (116) in its foremost position. On the Trigger (113) being pressed the bent on the Sear (116) is released from the Piston (200) as for "Repetition," but as the Sear (116) is unable to move backwards the Sear Trip (118) being unable to trip over the bent of the Trigger (113) is rendered inoperative, and as long as the Trigger (113) is pressed the Sear (116) is kept out of engagement with the Piston (200), enabling the gun to function automatically.

Set to "Safe."

To set the Trigger Mechanism to the "Safe" position the Change Lever Plunger (122) should be in engagement with the bottom location hole (marked S) in the Trigger Guard (110). In this position the cam-shaped projection on the stem of the Change Lever (121) is in contact with the projection at the front of the top of the Trigger (113), which is thus prevented from any movement and is unable to be operated.

The front of the Sear (116) may, however, still be depressed against the Sear Spring (117) by the rear of the bent on the Piston (200) to enable the gun to be cocked when the Change Lever (121) is set to "Safe."

ASSEMBLING THE GUN.

To Dismantle the Gun.

When the Gun is dismantled for cleaning, etc., it is recommended that the various components should be dismantled in the following order:—

- (1) Detach the Butt; before doing this, however, care should be taken that the Gun is not cocked, *i.e.* that the Breech Block (190) is in its forward position. The Butt is detached by pressing out the Trigger Guard Locking Pin (65) from left to right. This can usually be done with the fingers, but if it is stiff the nose of a cartridge may be used. To detach the Butt raise it at the rear and unhook from the Body (30).
- (2) Pull out the Return Spring (146) from the Butt.
- (3) Remove the Piston (200) and Breech Block (190) from the Body (30) by giving a sharp backward pull on the Cocking Handle.
- (4) Separate the Breech Block (190) from the Piston (200) by drawing the Block forward and lifting it upwards.
- (5) Remove the Barrel (0) as follows (see Plates 3 and 4):—
 - (a) With the right hand press the Carrying Handle Catch Knob (22) which releases the Carrying Handle Catch (16) from the Barrel, and turn the Carrying Handle upwards to its highest position. Release knob, but retain the hand on the Handle.
 - (b) With the left hand pull back the Barrel Locking Pin Knob (72) to release the Barrel Locking

Pin Catch (71) from the Body (30) and turn the Barrel Locking Pin (70) downwards and forwards as far as it will go. This action withdraws the Gas Cylinder (170) from engagement with the Barrel (0).

(c) With the right hand holding the Carrying Handle, give the Barrel (0) a partial turn to the right, to disengage the screwed portion from the Body (30), and push the Barrel (0) forward.

Note.—The Barrel (0) may be removed or replaced without dismantling the remainder of the Gun. When this is done, care should be taken that the Gun is cocked.

- (6) Remove the Gas Cylinder (170). To do this the Barrel Locking Pin (70) should be turned upwards and the Barrel Locking Pin Catch (71) put into engagement with the upper recess on the side of the Body (30). This brings the serrated part of the Barrel Locking Pin (70) out of engagement with the Gas Cylinder (170). Push the Gas Cylinder (170) with the Bipod forward out of the Body (30).
- (7) Remove the Barrel Locking Pin (70) by turning it downward and forward until the key on the spindle of the pin is in engagement with the keyway in the Body (30) when the pin may be pulled outwards.

To Assemble the Gun.

(1) Insert the Barrel Locking Pin (70) into the Body (30). Before it can be pushed right in, the key on the spindle must register with the keyway in the Body (30). Turn the pin backwards and upwards,

- and engage the Barrel Locking Pin Catch (71) with the upper recess on the side of the Body (30).
- (2) Replace the Gas Cylinder (170) in the Body (30). Disengage the Barrel Locking Pin Catch (71) from the Body (30) by pulling back the Barrel Locking Pin Knob (72) and turn the Barrel Locking Pin (70) downwards and forwards as far as it will go. This action withdraws the Gas Cylinder (170) into the Body (30) to enable the Barrel (0) to be assembled
- (3) Replace the Barrel as follows:—
 - (a) Grasp the Carrying Handle with the right hand, first making sure that the Handle is still in its uppermost position, as on removal from the Gun. Rest the centre of the Barrel on the "V"-shaped projection on the top of the Gas Cylinder (170) and insert the Breech end into the Body (30) at the same time, giving the Barrel a partial turn to the right, and push it home in the Body (30) until the Collar on the Barrel (0) abuts against the end of the Body (30). Then turn the Barrel (0) to the left with the Carrying Handle as far as it will go.

The Barrel should then be correctly fitted to the Body (30).

- (b) With the left hand, turn the Barrel Locking Pin (70) backwards and upwards, and engage the Barrel Locking Pin Catch (71) in the lower recess on the side of the Body (30). This action brings the end of the Gas Cylinder (170) into engagement with the Gas Block (2).
- (c) With the right hand, press the Carrying Handle Catch Knob (22) to release the Carrying

Handle Catch (16) from engagement with the Barrel (0) and swing the Carrying Handle downwards.

- (4) Replace the Breech Block (190) on the Piston (200), bringing the Block as far forward as it will go.
- (5) Insert the Breech Block (190), together with the Piston (200), in the Body (30). The Breech Block (190) should be kept forward on the Piston (200), otherwise a jam may occur.
- (6) Insert one end of the Return Spring (146) in the Butt.
- (7) To assemble the Butt, first place the free end of the Return Spring (146) in the Body (30) behind the Piston (200). Then hook the top of the Trigger Guard (110) under the top of the Body (20), bring the Butt downwards until the Trigger Guard (110) abuts against the Body (30), and press home the Trigger Guard Locking Pin (65) from the right.

To Dismantle the Trigger Gear.

- (1) Remove the Butt.
- (2) Turn the handle of the Change Lever (121) downwards, and forwards, until the key on the stem is opposite the keyway in the bearing in the Trigger Guard Side Plate (111). The lever may then be removed by pulling outwards.
- (3) Remove the Trigger Guard Side Plate (111) by lifting the rear end outwards. The Combination Tool (204) may be used for this purpose.
- (4) Push out the Sear Axis Bar (120) from the Trigger Guard (110) and remove the Sear (116) and Sear Spring (117).

(5) Press the Trigger (113) and remove it together with the Trigger Spring (115).

To Assemble the Trigger Gear.

- (1) Place the Trigger Spring (115) on the Trigger (113) and insert both in the Trigger Guard (110).
- (2) Place the Sear (116) and Sear Spring (117) in position, and insert the Sear Axis Bar (120).
- (3) Place the Trigger Guard Side Plate (111) in position by inserting the lip at the front end under the projection in the Trigger Guard (110) and press down the rear end into the Trigger Guard (110).
 - (4) Insert the Change Lever (121) with the handle downwards so that the key on the stem engages with the key in the bearing on the Trigger Guard Side Plate (111). Turn the Lever upwards so that the Change Lever Plunger (122) registers with a location hole on the Trigger Guard (110), in the "Safe" position for preference.
 - (5) Replace the Butt.

To Dismantle the Extractor.

Lever the head of the Extractor Spring Guide (195) from the Breech Block (190) with the blade of the Combination Tool (204) and remove the Extractor Spring Guide (195), together with the Extractor Spring (196) from the Block.

Remove the Extractor (194) from the front of the Block.

Care should be taken as the Extractor Spring (196) exerts considerable pressure, and may fly out of the block if the pressure is suddenly released during dismantling.

Insert the Extractor (194) in the front of the Breech Block (190). Place the Extractor Spring (196) on the Extractor Spring Guide (195) and insert the stem of the guide into the rear of the Extractor (194). Then, with a convenient support, lever the head of the guide into the recess on the Breech Block (190).

To Dismantle the Ejector.

If the Breech Block (190) is in the Body (30) first cock the Gun, then with the forefinger of the right hand inserted in the magazine orifice, push the front arm of the Ejector (33) backwards.

This forces the rear arm against the rear of the Ejector Cover (79), which is thus sprung away from the recess in the Body (30) and enabled to be removed by pulling it backwards with the left hand. The Ejector (33) may then be withdrawn from the Body (30).

To Assemble the Ejector.

Insert the Ejector (33), rear end first, in the Body (30). Engage the trunnions on the Ejector (33) with the bearings on the Body (30) and push the front end inside the Body (30). Slide the Ejector Cover (79) from the rear into the dovetailed recess, and push it forward until the rear of the cover snaps into the rear of the recess.

To Dismantle the Firing Pin.

Unscrew and remove the Firing Pin Screw (198), when the Firing Pin (197) and Firing Pin Spring (199) may be shaken from the Breech Block (190). This can only be done when the Breech Block (190) is removed from the Gun.

To Assemble the Firing Pin.

Place the Firing Pin Spring (199) on the Firing Pin (197) and insert the Firing Pin (197) in the Breech Block

(190). Hold it forward and replace the Firing Pin Screw (198).

To Dismantle the Cocking Handle.

Remove the Butt and the Ejection Opening Cover (82). Remove the Cocking Handle Lug Pin (167) and withdraw the Cocking Handle Lug (166) outwards. The Cocking Handle may then be withdrawn by pulling it to the rear.

To Assemble the Cocking Handle.

Reverse the foregoing operations.

To Dismantle the Gas Block.

Unscrew and remove the Gas Plug (3) with the aid of the Gas Regulator Key (203). Prise out the Gas Plug Port (4) with the end of the Combination Tool (204). Unscrew and remove the Gas Regulator (5) and Gas Regulator Chamber Plug (6), and remove the Gas Regulator Detent (8).

To Assemble the Gas Block.

Insert the Gas Regulator Detent (8) and screw the Gas Regulator Chamber Plug (6) and Gas Regulator (5) in position.

Insert the Gas Plug Port (4) in the Gas Plug (3) and screw the plug home in the block.

Adjustment of Gas Regulator.

If the gun is found to be too violent in its action the Gas Regulator (5) should be turned with the Gas Regulator Key (203) in an anti-clockwise direction to its next position. This enables a larger portion of the gas to escape from the front of the Gas Block (2), thus reducing the pressure on the head of the Piston (200).

To Load the Magazine.

To load the Magazine from Rifle Chargers, place the Magazine Charger Guide on the open end of the Magazine and insert the loaded Rifle Charger. Press the cartridges into the Magazine with the thumb.

Single cartridges (without chargers) may also be loaded by hand, one at a time in the magazine. The Magazine Charger Guide is not then required.

After filling the magazine, press the cartridges down as far as they will go. They should return smartly. If the action is sluggish the magazine should be put aside for examination.

To Replace Magazine on the Gun.

Remove the empty magazine by pushing forward the Magazine Catch Lever (42) with the palm of the hand. This releases the Magazine Catch (38). At the same time grip the magazine with the fingers of the same hand and push it forward out of the Gun.

To mount a loaded magazine, hook the front end under the front of the magazine orifice and snap the rear into engagement with the Magazine Catch (38).

The Gun is now ready for further firing on the Trigger (113) being pressed.

To Fold the Bipod.

To put the Bipod into its housed position, the front legs should be pressed together. This releases the lugs of the Bipod Leg Joints (179) from the keyway in the Bipod Legs Hinge (178). The legs should then be swung

upwards to the side of the Barrel (0) until the lugs of the Bipod Leg Joints (179) engage with the horizontal keyway in the Bipod Legs Hinge (178). They will then be retained in their folded position.

Points to be Observed before Firing.

- (1) Examine the Barrel (0) to ensure that the bore is clear.
- (2) See that the Gas Regulator (5) is in its normal position.
- (3) See that the necessary spare parts and tools are available in case of need.
- (4) See that the magazines are correctly filled.
- (5) See that the gun is lightly oiled.

Points to be Observed after Firing.

- (1) Remove the Magazine.
- (2) Press the Trigger (113) to return the Breech Block (190) to its forward position. This releases the tension of the Return Spring (146).
- (3) Fold down the Backsight Leaf (86).
- (4) Close the Ejection Opening Cover (82).
- (5) Fold down the Magazine Catch Lever (42) and close the Magazine Opening Cover (54), securing both these components with the Magazine Catch Slide (35).
- (6) Clean and oil the bore as soon as possible after firing.

Cleaning after Firing.

Guns should be cleaned immediately after firing. The fouling can easily be removed while it is still warm and

Cleaning with Boiling Water.

An effective means of cleaning the bore, whether firing has taken place or not, is found in the use of boiling water. Before boiling water is used superficial fouling and grease should be removed. About 5 or 6 pints should be poured through the bore from the breech end using a funnel for the purpose. The bore should then be thoroughly dried and oiled. Not only does the boiling water remove the fouling, but the expansion of the metal due to the heat of the water loosens any rust there may be and makes it easily removable.

In Sandy Countries.

Great care is necessary in the quantity of oil used. A thin film of oil, *i.e.* parts wiped over with an oily rag will prevent rust during the night.

On return to barracks the gun and barrel should be carefully cleaned as soon as possible. The barrel must be carefully cleaned and oiled; also the piston head * gas cylinder, face of breech block,* firing pin,* gas plug* and gas regulator.*

Cleaning.

When cleaning the gun, turpentine or oil should be used. Emery cloth or other abrasive material should NOT be used.

Before assembly, it is a good plan to try the components separately in their respective positions, to ensure that they work freely.

^{*} Components marked thus should be immersed in boiling water, dried off, cleaned and oiled.

Whenever opportunity occurs after firing, the Breech Block (190) and Piston (200) should be taken out of the Gun and examined, and cleaned if necessary.

The Gas Block (2) and Gas Cylinder (170) should also be examined, and if necessary any fouling should be removed with the Gas Cylinder Cleaner or Gas Block Cleaner.

Lubrication.

Thin mineral oil should be used, which will not congeal at low temperature. It must be clean and free from acid, water or suspended matter.

Monthly Examination.

It is recommended that the gun should be thoroughly examined once a month and left in a properly lubricated and serviceable condition.

Particular attention should be paid to the Breech Block (190), Piston (200), and the Barrel (0).

STOPPAGES.

The mechanism of the Gun is so simple and is composed of so few parts that, under normal conditions and with a trained Gunner, stoppages are of rare occurrence; but when they do occur they can be effectively and expeditiously dealt with by following the instructions given in the "Table of Temporary Stoppages" on the facing page.

Temporary Stoppages.

The Table of Temporary Stoppages gives a clear indication of the cause of and remedy for each stoppage.

Column 1.

Gives the approximate position of the Breech Block (190) as seen through the ejection opening for each stoppage (see Plate 9).

Column 2.

Gives the cause of the stoppage.

Column 3.

Gives the remedy necessary to prevent a recurrence of the stoppage.

TABLE OF TEMPORARY STOPPAGES.

1	2	3
Approx. Position of the Breech Block.	Cause.	Remedy.
Stoppage No. 1. See Plate 9, Page 83. About ¼ of the Breech Block seen through the Ejection Opening.	(1) Magazine incorrectly put on or incorrectly filled. Bullet point unable to pass under the Bullet Guide.	(1) Cock the Gun. Remove the Magazine. See that the first Cartridge is cor- rectly positioned. Re- place the Magazine and continue firing.
	(2) Interlocking Cartridge Rims. This is due to the Second Round in the Magazine being abnormally short.	(2) Cock the Gun. Remove the Magazine. Remove the Short Round from the Magazine, or push it back to the correct position with the Rim behind that of the first Round. Replace the Magazine and continue firing.
Stoppage No. 2. See Plate 9, Page 83. About ½ of the Breech Block seen through the Ejection opening.	(1) The first Round is not cleared from the Magazine, due to friction in the Gun Mechanism, or considerable sand inside the Magazine.	 (1) [a] Cock the Gun and fire. If repeated, change the Magazine, which should be cleaned out before further use. [b] Friction in the Gun Mechanism can be largely overcome by oiling the Piston through the top opening.

Approx. position of the Breech Block.	Cause.	Remedy.	Approx. Position of the Breech Block.	Cause.
	(2) The first Round in the Magazine is out of place before the Magazine is put on the Gun. In this case the Round may fall into the Body or the Bullet end drop out of alignment with the Chamber, causing a misfeed.	(2) Cock the Gun. Remove the Magazine and correct the displaced Cartridge, or remove the loose Round from the Body. Replace the Magazine and continue firing.	Stoppage No. 3. See Plate 9, Page 83. About ¾ of the Breech Block seen through the Ejection opening.	(1) Misfeed—due to rimmed Cartrid able to slide und Extractor.(2) Separated Car Case.
	(3) Failure to eject. The fired Cartridge remaining in the Bodyprevents the next round from being pushed into the Chamber.	(3) Cock the Gun. [a] Remove the partially fed Round and empty case from the Body. Replace the Magazine and carry on firing. [b] If repeated, change the Extractor Spring, or change the Breech Block.		(3) High Feed Pieco may cause a stoppage by l inside the Lip Magazine.
	(4) Misfeed—the point of the Bullet not entering the mouth of the Chamber.	 (4) Cock the Gun. [a] Remove the Magazine. Clear the Round from the Body. Put on the Magazine and continue firing. [b] If it recurs with the 	Stoppage No. 4. See Plate 9, Page 83. Breech Block, forward,appar-	(1) Misfire.
	(5) Failure to extract, the fired Case remaining in the Chamber with the Bullet Point of the next Cartridge fed on to it. Probable cause—Broken Extractor.	same Magazine, discard for adjustment. (5) Cock the Gun. [a] Remove the Magazine. Correct the displaced Round in the Magazine. Replace the Extractor or Breech Block and clear the fired Case from the Barrel by cocking the Gun. [b] If the rim of the fired Cartridge in the Barrel	ently in the Locked Position.	(2) Failure to feed, Chamber, the ro- the Magazine having been en by the Feed Pie
		is torn and is not removed by the cocking action change the Barrel or clear with the Cleaning Rod.		

		and the second s
Approx. Position of the Breech Block.	Cause.	Remedy.
Stoppage No. 3. See Plate 9, Page 83. About \(\frac{3}{4}\) of the Breech Block	(1) Misfeed—due to thick rimmed Cartridge un- able to slide under the Extractor.	(1) Cock the Gun to clear the misfed round. If repeated, change the Extractor, or Breech Block.
seen through the Ejection opening.	(2) Separated Cartridge Case.	(2) Cock the Gun. If part of the Case is left in the Chamber:— [a] Use the Clearing Plug. [b] Change the Barrel. If separation is repeated change the Breech Block.
	(3) High Feed Piece—this may cause a No. 3 stoppage by lodging inside the Lip of the Magazine.	(3) Cock the Gun to eject the round on the face of the Breech Block. Change the Breech Block, and when opportunity occurs change the Feed Piece and Feed Piece Pin.
Stoppage No. 4. See Plate 9, Page 83. Breech Block, forward appar	(1) Misfire.	(1) Cock the Gun to clear and continue firing. If frequent, change the Breech Block or Firing Pin.
forward,apparently in the Locked Position.	(2) Failure to feed, empty Chamber, the round in the Magazine not having been engaged by the Feed Piece.	(2) Cock the Gun and continue firing. If repeated, change the Magazine.

GUN, MACHINE, VICKERS-BERTHIER '303 INCH, MARK I.

COMPONENT NOMENCLATURE IN ALPHABETICAL ORDER

Bar, axis, sear 12	0
	U
Barrel	0
Blade, foresight (normal) 11	2
Block, breech 190	0
Block, gas	2
Body 30	0
Body, handle, cocking 16	0
Bracket, bipod 17	7
Bracket, catch, butt 13	1
Bracket, cover, handle, cocking 14:	3
Bracket, foresight 1	1
Bracket, handle carrying 18	5
Buffer 128	8
Bush, pawl, catch, magazine 40	6
Butt 130	6
Cam, block, breech, body 33	2
Catch, block, breech 34	4
Catch, butt 13	2
Catch, cover, opening, ejection 83	3
Catch, cover, opening, magazine 56	5
Catch, handle, carrying 10	6
Catch, handle, cocking 16	2
Catch, magazine 33	8
Catch, pin, locking barrel 7	1
Collar, stop, barrel	1
Collars, clamp, leg, bipod (2) 17-	4
Cover, ejector (includes thumb-piece) 79	9
	7
Cover, handle, cocking 14	
Cover, handle, cocking 14 Cover, opening, ejection 8	2

COMPONENT NOMENCLATURE—Continued.

					PART	r NO.
Cylinder, gas						170
Detent, regulator, gas						8
Ejector						33
Eliminator, flash						10
Extractor						194
Eye, sling						9
Feed-piece						191
Flange, grip, handle, ca						26
Grip, handle, carrying						17
Guard, trigger						110
Guide, bullet		•••		•••		50
Guide, feed-piece, body	· · · · · · · · · · · · · · · · · · ·	•••		•••	•••	31
Guide, nut, adjusting,		roturn				152
Guide, spring, extracto	_					195
Guide, spring, chicaeto						100
Head, screw, backsight						94
Hinge, legs, bipod						178
Intermediate breech the		1				50
Interrupter, breech thr	ead, bo	ody	•••	•••		59
Joints, legs, bipod (2)		•••				179
Keys, legs, bipod (2)						176
Knob, catch, handle, c	arrying					22
Knob, handle, cocking						161
Knob, lever, change						123
Knob, pin, locking, bar	rrel					72
						- 417
Leaf, backsight		•••	•••			86
Lever, catch, magazine	2					42
Lever, change						121
Lug, handle, cocking						166

COMPONENT NOMENCLATURE—Continued.		COMPONENT NOMENCLATURE—Continued.	NO
NT	PART NO. 151	Pin, split, nut, stem, backsight	92
Next actala access in it.	84		168
NT 1 1 1 1 1	74	Pin, stem, handle, carrying	28
Not a second of the second of	181		119
N-41-4 1 1 1 1 1 1	89		187
N-+ :1 : (0)	141	,,,	186
Next atom booksisht	91	=, J,O,(-)	200
Nut stom handle comming	20	Plate, aperture, backsight	88
		Plate, bottom, body	60
· · · · · · · · · · · · · · · · · · ·	43		137
	7		111
	185	Plate, stop, handle cocking	62
	130	Plug, bracket, backsight, body	64
	127	Plug, chamber, regulator, gas	6
	36	Plug, gas	3
	133	Plug, spring, catch, magazine	39
	24		122
	163	Plunger, pin, guard, trigger	52
	14	Plunger, pin, locking, barrel	75
	57	Port, plug, gas	4
	193	1010, p108, 800	
	197	Regulator, gas	5
	45	Rivet, plate, bottom, body	61
	153	Rivet thumb-piece cover ejector (2)	81
	95		
	23	, in the state of	150
	44		180
	70	Doro (1, 1) 21 do (1) 21 do (1)	144
. 0.0	65	Screw, bracket, handle, carrying	21
	167	Screw, butt, plate, lower	135
	76	Screw, butt, plate, upper	148
	182	Screw, elevating, backsight	93
	66	Screw, guide, spring, return	149
	77	Screw, pin, firing	198
	49	Screw, plate, aperture, backsight	90
Pin, split, eliminator, flash	13	Screw, side-pieces, pistol-grip (2)	140

COMPONENT NOMENCLATURE—Continued.

	, and the contract of	PART NO.
Screws, bracket, butt, catch (2)		135
Screws, clamp, leg, bipod (2)		175
Screws, hinge, legs, bipod (2)		183
Sear		116
Shoes, bipod (2)		173
Shoulder, locking		48
Side-piece, pistol-grip, left		139
Side-piece, pistol-grip, right		138
Slide, backsight		87
Slide, catch, magazine		35
Spring, buffer		129
Spring, catch, block, breech		37
Spring, catch, butt		134
Spring, catch, cover, opening, ejection		85
Spring, catch, cover, opening, magazine (2)	56
Spring, catch, handle, carrying		18
Spring, catch, handle, cocking		165
Spring, catch, magazine		40
Spring, extractor		196
Spring, feed-piece		192
Spring, head, screw, backsight		96
Spring, knob, handle, cocking		164
Spring, legs, bipod		184
Spring, lever, catch, magazine		47
Spring, pin, firing		199
Spring, plunger, lever, change		85
Spring, plunger, pin, guard, trigger		53
Spring, plunger, pin, locking, barrel		73
Spring, return		146
Spring, sear		117
Spring, stem, backsight		97
Spring, trigger		115
Spring, trip, sear		142
Stem, grip, handle, carrying		19
Stop, piston		58

COMPONENT NOMENCLATURE—Continued.

		PAR	I NO.
Stud, flange, grip, handle, carryin	ng	 	27
Stud, spring, trigger		 	114
Studs, side, sear (2)		 	112
Thumb-piece, cover, ejector		 	80
Trigger		 	113
Trip, sear		 	118
Tube, butt		 	145
Tube, spring, return		 	124
Tubes, leg, bipod, lower (2)		 	172
Tubes, leg, bipod, upper (2)		 	171
Washer, catch, pin, locking, barre	el	 	78
Washer, pin, catch, handle, carry	ing	 	25

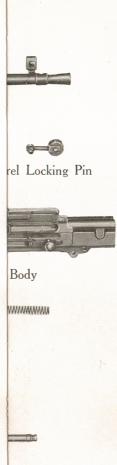
MAGAZINE, TOOLS AND ACCESSORIES NOMENCLATURE IN ALPHABETICAL ORDER

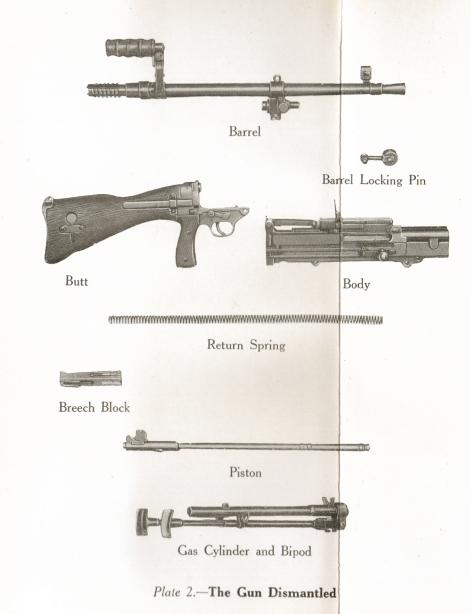
D	L -11 V.D	.000 :	MC				T NO.
Drus.	h, chamber, V.B.	.909 III	., M.G.			•••	218
Butt	-rest, V.B. ·303 in	., M.G.					
	Base						220
]	Nut, elevating						223
[]	Pin, base						225
]	Pin, stem						226
.]	Pin, stop, screw, e	elevatir	ng, inne	r			227
]	Pin, stop, stem						228
	Screw, elevating, i	nner					221
	Screw, elevating, of						222
5	Stem						224
Chest	t, Vickers-Berthie	r, ·303	in., M.(G.			245
Clean	iers, block, gas, ai	nd cylin	nder, ga	as, V.B	303	in.,	
	M.G						230
1	Adapter, cutters						235
	Adapter, stem, ha						236
	Cutter, block, gas						231
	Cutter, cylinder, g						232
	Handle						237
	Lug, handle						239
	Pin, axis, handle						238
	Pin, handle, lug a			¥			240
							233
	Stem, handle, cut						234
							201
Guid	e, charger, magaz	ine, V.	B. ·303	in., M.	G.		
]	Body						205
	Bracket						206
	Rivets, bracket						207

MAGAZINE, TOOLS AND ACCESSORIES NOMENCLATURE IN ALPHABETICAL ORDER—Continued.

				PAR	T NO.
Key, regulator, gas, V	.B. ·30	03 in.,	M.G.	 	203
Magazine, V.B. ·303 in	ı., M.(д.		 	210
Plate, bottom				 	215
Plate, front				 	211
Plate, side, left				 	214
Plate, side, right				 	213
Plate, rear				 	212
Platform				 	216
Spring, platform				 	217
Plug, clearing, V.B. ·3	03 in.	, M.G.			
Head				 	241
Plunger				 	242
Stem				 	243
Sling, V.B. ·303 in., M	.G.			 	244
Tool, combination, V.J	B. ·30	3 in., M	I.G.	 	204







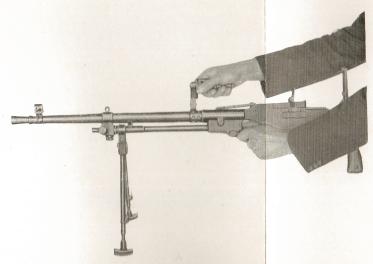


Plate 3.—Dismantling the Barrel (1st Position)

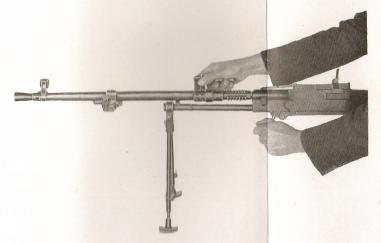
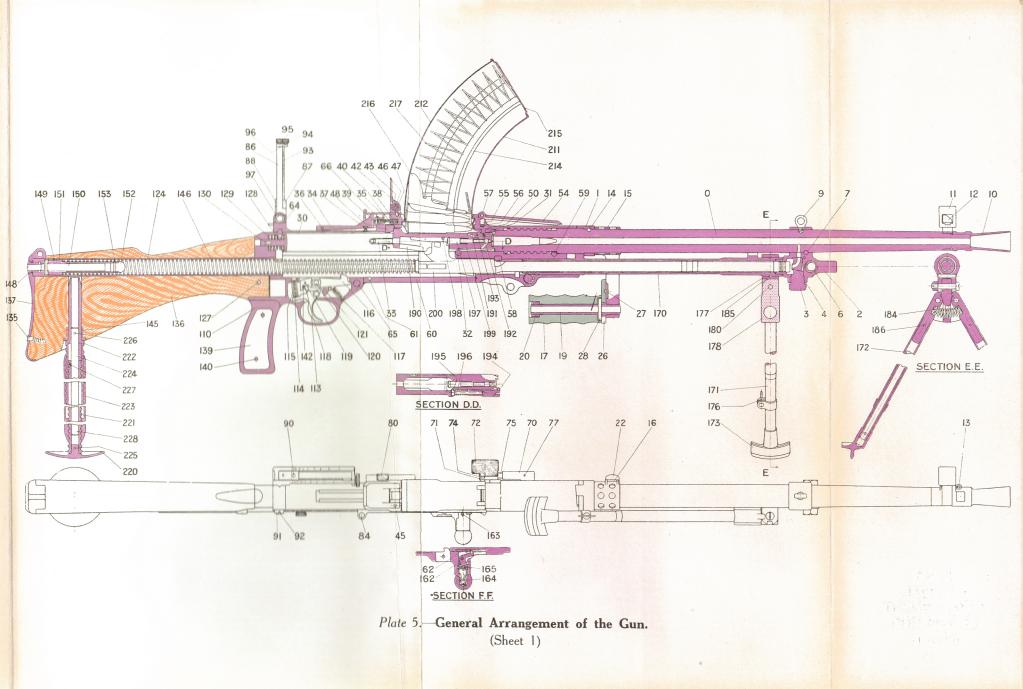


Plate 4.—Dismantling the Barrel (2nd Position)



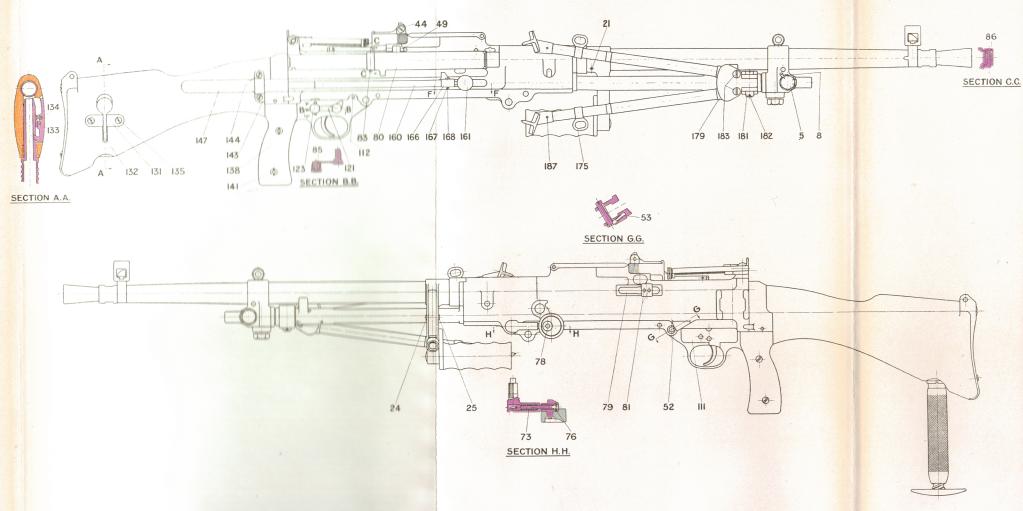


Plate 6.—General Arrangement of the Gun. (Sheet 2)

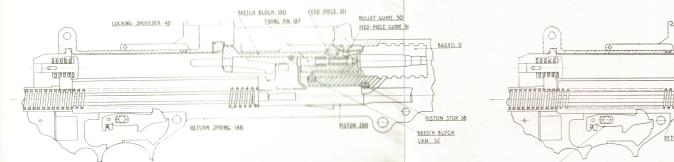


Fig. 1.—Breech Block and Piston in the Firing Position. Cartridge fired by the Piston having pushed forward the Firing Pin

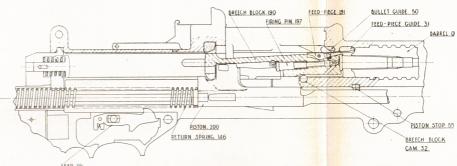


Fig. 2.—Breech Block and Piston partly recoiled. Breech Block unlocked

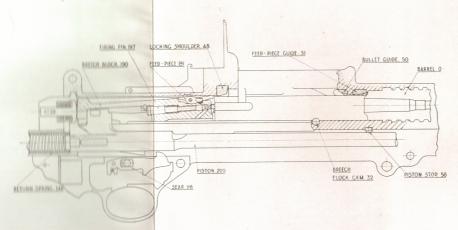
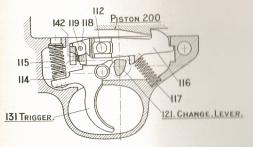
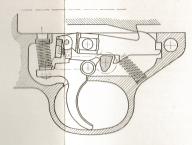


Fig. 3.—Piston and Breech Block fully recoiled

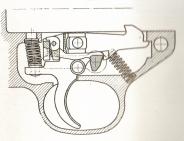
Plate 7. Diagrams showing the action of the Breech Mechanism



Change Lever set for "Repetition Firing." Trigger in the Normal Position

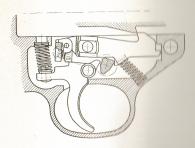


Change Lever set for "Repetition Firing."
Trigger about to Fire

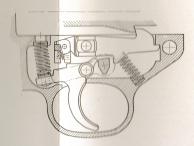


Change Lever set for "Repetition Firing." Trigger pulled right back. Gun fired





Change Lever set for "Automatic Firing,"
Trigger pulled



Change Lever set to "Safe." Trigger cannot be pulled

Plate 8.—Diagrams of Trigger Mechanism

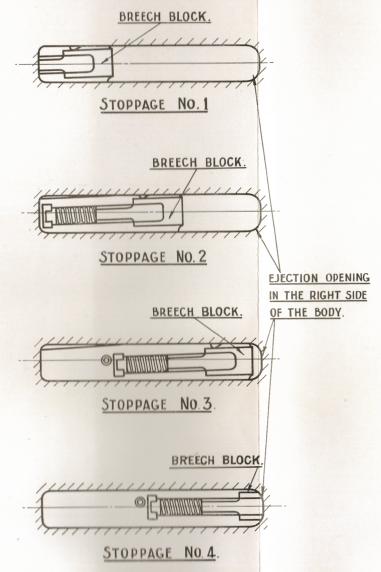


Plate 9.—Approximate Positions of Breech Block for the various Stoppages

Plate 10.—BARREL GROUP

Par	t No.	NOMENCLATURE.
0		 Barrel.
1		 Collar, stop, barrel.
2		 Block, gas.
3		 Plug, gas.
4		 Port, plug, gas.
5		 Regulator, gas.
6		 Plug, chamber, regulator, gas.
7		 Pin, block, gas.
8	•	 Detent, regulator, gas.
9		 Eye, sling.
10		 Eliminator, flash.
11		 Bracket, foresight.
12		 Blade, foresight (normal).
13		 Pin, split, eliminator, flash.
14		 Pin, collar, stop, barrel.
15		 Bracket, handle, carrying.
16		 Catch, handle, carrying.
17		 Grip, handle, carrying.
18		 Spring, catch, handle, carrying.
19		 Stem, grip, handle, carrying.
20		 Nut, stem, handle, carrying.
21		 Screw, bracket, handle, carrying
22		 Knob, catch, handle, carrying.
23		 Pin, knob, catch, handle, carrying.
24		 Pin, catch, handle, carrying.
25		 Washer, pin, catch, handle, carrying.
26		 Flange, grip, handle, carrying
27		 Stud, flange, grip, handle, carrying.
28		 Pin, stem, handle, carrying.

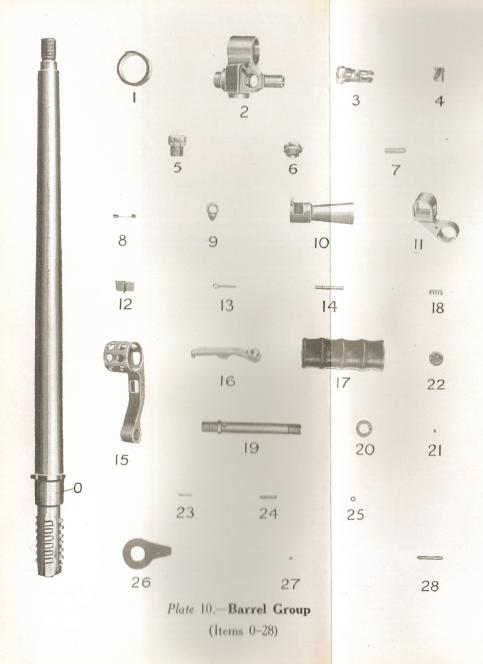


Plate 11.—BODY GROUP

No.	NOMENCLATURE.
	 Body.
	 Guide, feed piece, body.
	 Cam, block, breech, body.
	 Ejector.
	 Catch, block, breech.
	 Slide, catch, magazine.
	 Pin, catch, block, breech.
	 Spring, catch, block, breech.
	 Catch, magazine.
	 Plug, spring, catch, magazine.
	 Spring, catch, magazine.
	 Lever, catch, magazine.
	 Pawl, catch, magazine.
	 Pin, lever, catch, magazine.
	 Pin, fixing pin, lever, catch magazine.
	 Bush, pawl, catch, magazine.
	 Spring, lever, catch, magazine.
	 Shoulder, locking.
	 Pin, shoulder, locking.
	 Guide, bullet.
	 Plunger, pin, guard, trigger.
	 Spring, plunger, pin, guard, trigger.
	 Cover, opening, magazine.
	 Catch, cover, opening magazine.

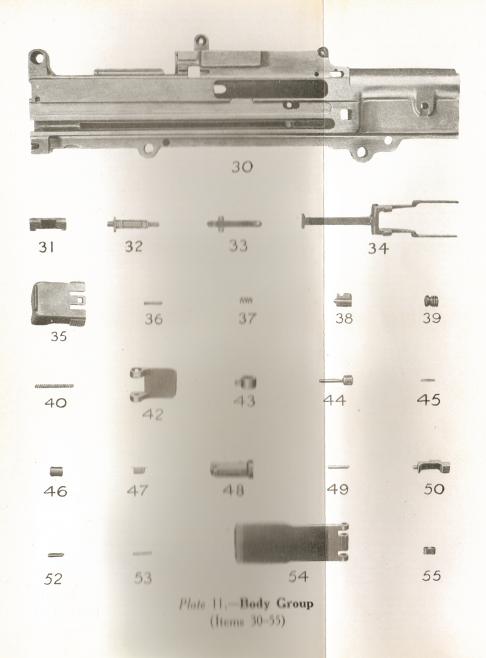


Plate 12.—BODY GROUP—Continued

Part	No.		NOMENCLATURE.
56			Spring, catch, cover, opening, magazine (2).
57			Pin, cover, opening, magazine.
58			Stop, piston.
59			Interrupter, breech thread, body.
60			Plate, bottom, body.
61			Rivet, plate, bottom, body.
62			Plate, stop, handle, cocking.
64			Plug, bracket, backsight, body.
65			Pin, locking, guard, trigger.
66			Pin, plug, spring, catch, magazine.
70			Pin, locking, barrel.
71			Catch, pin, locking, barrel.
72			Knob, pin, locking, barrel.
73			Spring, plunger, pin, locking, barrel.
74			Nut, plunger, pin, locking, barrel.
75			Plunger, pin, locking, barrel.
76			Pin, nut, pin, locking, barrel.
77			Pin, plunger, pin, locking, barrel.
78			Washer, catch, pin, locking, barrel.
79			Cover, ejector (includes thumb-piece).
80			Thumb-Piece, cover, ejector.
81			Rivet, thumb-piece, cover, ejector (2).
82			Cover, opening, ejection.
83			Catch, cover, opening, ejection.
84			Nut, catch, cover, opening, ejection.
85			Spring, plunger, lever, change.
			Spring, catch, cover, opening, ejection.
86	•••		Leaf, backsight.
87			Slide, backsight.
88		• • • •	Plate, aperture, backsight. Nut, screw, plate, aperture, backsight.
89 90	•••		Screw, plate, aperture, backsight.
91			Nut, stem, backsight.
92			Pin, split, nut, stem, backsight.
93	•••		Screw, elevating, backsight.
94	•••		Head, screw, backsight.
95			Pin, head, screw, backsight.
96			Spring, head, screw, backsight.
97			Spring, stem, backsight.
			Spring, stem, saemsgarer

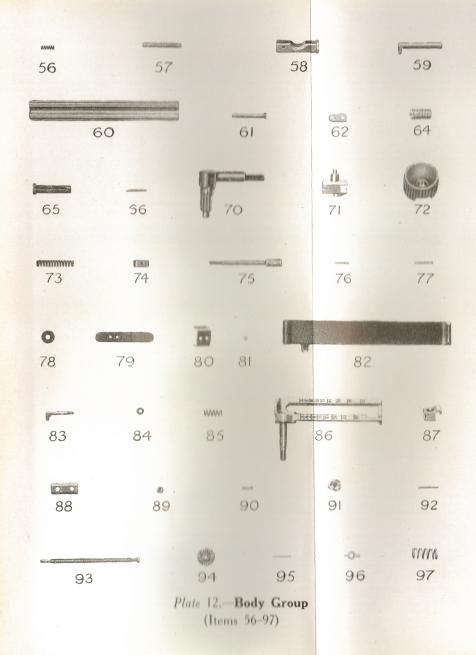


Plate 13.—TRIGGER AND BUTT GROUP

P	late	3.—IRIGGER AND BUIL	GROUP
Part No.		NOMENCLATURE,	
110		Guard, trigger.	
111		Plate, side, guard, trigger.	
112		Studs, side, sear (2).	
113		Trigger.	
114		Stud, spring, trigger.	
115		Spring, trigger.	
116		Sear.	
117		Spring, sear.	
118		Trip, sear.	
119		Pin, trip, sear.	
120		Bar, axis, sear.	
121		Lever, change.	
122		Plunger, lever, change.	
123		Knob, lever, change.	
124		Tube, spring, return.	
127		Pin, butt-stock.	
128		Buffer.	
129		Spring, buffer.	
130		Pin, buffer.	
131		Bracket, catch, butt.	
132		Catch, butt.	
133		Pin, catch, butt.	
134		Spring, catch, butt.	(0)
135		Screws, bracket, butt catch	$\binom{(2)}{(1)}$ 3
	•••	Screw, butt, plate, lower	(1)
136	•••	Butt.	
137		Plate, butt.	
138		Side-Piece, pistol-grip, right.	
139		Side-Piece, pistol-grip, left.	0 (9)
140	•••	Screw, side-pieces, pistol-gri	1-grip (2)
141		Nut, screw, side-pieces, pisto)1-grip (2).
142		Spring, trip, sear.	ing
143 144		Bracket, cover, handle, cock Screw, bracket, cover, handle	e cocking (2)
	• • • •		c, cocking (2).
145 146		Tube, butt.	
147		Spring, return. Cover, handle, cocking.	
147		Screw, butt, plate, upper.	
149		Screw, guide, spring, return.	
150		Screw, adjusting, spring, ret	
151		Nut, adjusting, spring, return	
152		Guide nut, adjusting, spring	g. return.
153		Pin, guide, nut, adjusting, s	
100		in, suide, nat, adjusting, s	P 8, 100



Plate 13.—Trigger and Butt Group

(Items 110-153)

Plate 14.—COCKING HANDLE, GAS CYLINDER AND BIPOD GROUP

Part No.		NOMENCLATURE.
160		Body, handle, cocking.
161		Knob, handle, cocking.
162		Catch, handle, cocking.
163		Pin, catch, handle, cocking.
164		Spring, knob, handle, cocking.
165		Spring, catch, handle, cocking.
166		Lug, handle, cocking.
167		Pin, lug, handle, cocking.
168		Pin, split, pin, lug, handle, cocking
170		Cylinder, gas.
171		Tube, leg, bipod, upper (2).
172		Tube, leg, bipod, lower (2).
173		Shoe, bipod (2).
174		Collar, clamp, leg, bipod (2).
175		Screw, clamp, leg, bipod (2).
176		Key, legs, bipod (2).
177		Bracket, bipod.
178		Hinge, legs, bipod.
179		Joint, legs, bipod (2).
180		Screw, bracket, bipod.
181	.,.	Nut, screw, bracket, bipod.
182		Pin, nut, screw, bracket, bipod.
183		Screws, hinge, legs, bipod (2).
184		Spring, legs, bipod.
185		Pin, bracket, bipod.
186		Pins, joint, legs, upper (2).
187		Pin, fixing, shoe, legs, lower (2).

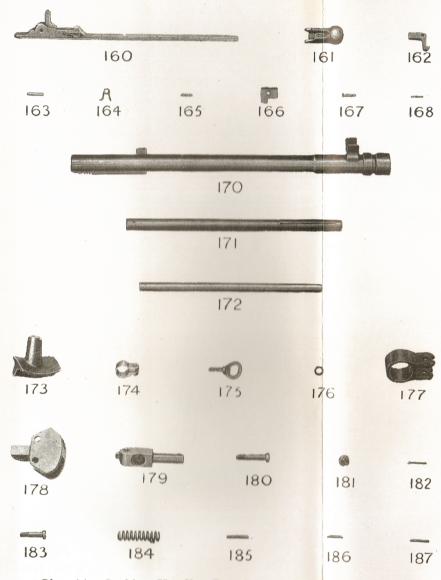
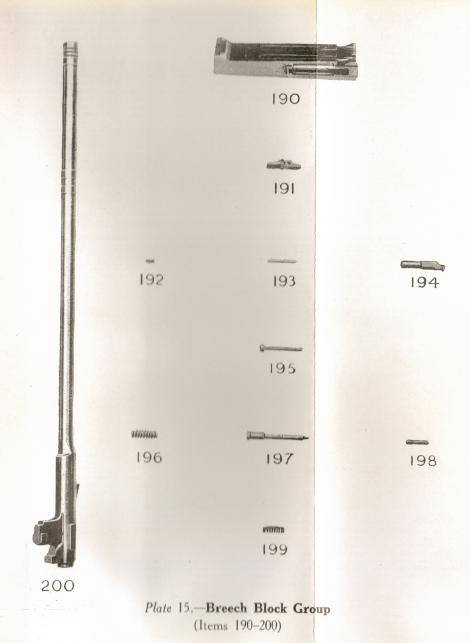


Plate 14.—Cocking Handle, Gas Cylinder and Bipod Group
(Items 160-187)

Plate 15.—BREECH BLOCK GROUP

Part No.		NOMENCLATURE.
190		
190	• • • •	Block, breech.
191		Feed-Piece.
192		Spring, feed-piece.
193		Pin, feed-piece.
194		Extractor.
195		Guide, spring, extractor.
196		Spring, extractor.
197		Pin, firing.
198		Screw, pin, firing.
199		Spring, pin, firing.

200 ... Piston.



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Plate 16.—MAGAZINE, ALSO TOOLS AND ACCESSORIES

Part No.	NOMENCLATURE.
203	 Key, regulator, gas, V.B303 in. M.G.
204	 Tool, combination V.B303 in. M.G.
205	 Body guide, charger, magazine.
206	 Bracket, guide, charger, magazine.
207	 Rivets, bracket, guide, charger, magazine (4).
210	 Magazine, V.B303 in. M.G. (assembled).
211	 Plate, front, magazine.
212	 Plate, rear, magazine.
213	 Plate, side, magazine, right.
214	 Plate, side, magazine, left.
215	Plate, bottom, magazine.
216	 Platform, magazine.
217	 Spring, platform, magazine.
	가는 사람들은 사람들은 아이들 때문에 가장 하는 것이 되었다면 하는데

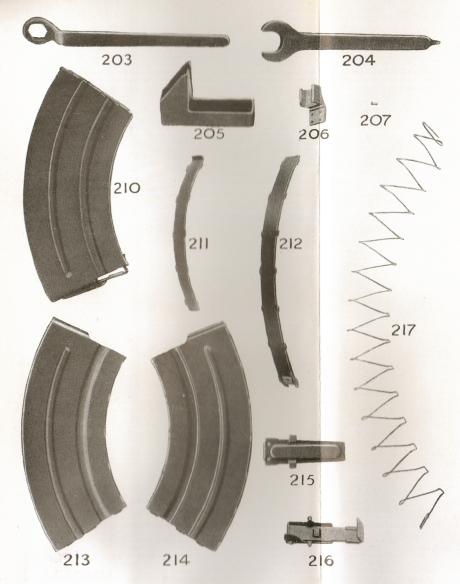


Plate 16.—Magazine, also Tools and Accessories
(Items 203-217)

Plate 17.—TOOLS AND ACCESSORIES

Part No.	NOMENCLATURE.
218	 Brush, chamber, V.B303 in. M.G.
220	 Base, butt-rest.
221	 Screw, elevating, inner, butt-rest.
222	 Screw, elevating, outer, butt-rest.
223	 Nut, elevating, butt-rest.
224	 Stem, butt-rest.
225	 Pin, base, butt-rest.
226	 Pin, stem, butt-rest.
227	 Pin, stop, screw, elevating, inner, butt-rest.
228	 Pin, stop, stem, butt-rest.
230	 Cleaner, block, gas and cylinder, gas, V.B303 in. M.G.
231	 Cutter, cleaner, block, gas, V.B303 in. M.G.
232	 Cutter, cleaner, cylinder, gas, V.B303 in.
	M.G.
233	 Stem, cutters, cleaner, block, gas and cylinder,
	gas.
234	 Stem, handle, cutters, cleaner, block, gas and
205	cylinder, gas.
235	 Adapter, cutters, cleaner, block, gas and
000	cylinder, gas.
236	 Adapter, stem, handle, cutters, cleaner,
237	block, gas and cylinder, gas.
237	 Handle, cleaners, block, gas and cylinder,
238	gas, V.B303 in. M.G. Pin, axis, handle, cleaners, block, gas and
200	 cylinder, gas.
239	 Lug, handle, cleaners, block, gas and cylinder,
200	gas.
240	 Pin, handle, lug and cutters, cleaner, block,
	gas and cylinder, gas.
241	 Head, plug, clearing.
242	 Plunger, plug, clearing.
243	 Stem, plug, clearing.
244	 Sling, V.B303 in. M.G.
245	 Chest, V.B303 in. M.G. (see Plate 19).

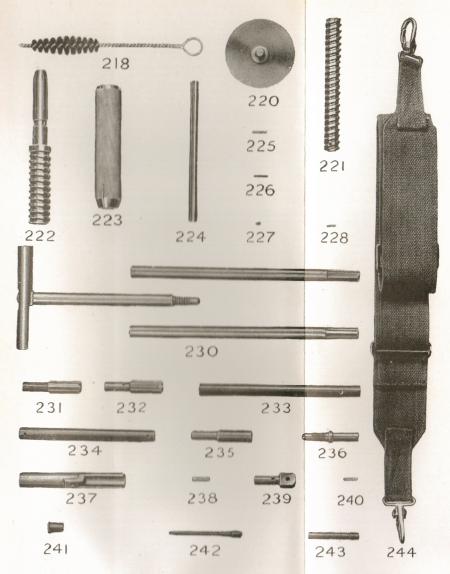
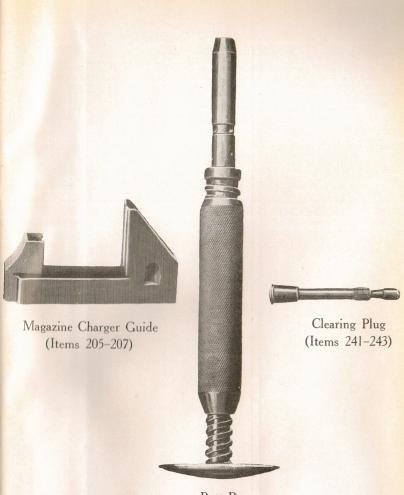


Plate 17.—Tools and Accessories (Items 218-244)



Butt-Rest (Items 220-229)

Plate 18.—Assembly of Magazine Charger Guide, Butt-Rest and Clearing Plug

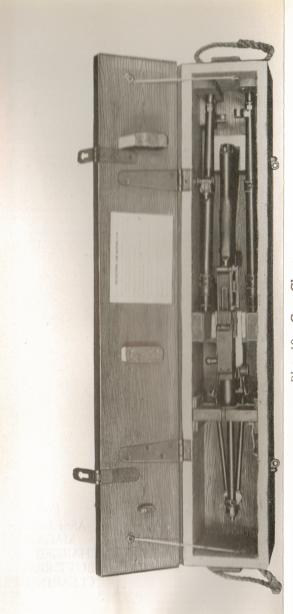


Plate 19.—Gun Chest

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